

**COOPERATIVE PURCHASING AGREEMENT
BETWEEN
THE TOWN OF FOUNTAIN HILLS
AND
ECONOLITE CONTROL PRODUCTS, INC.**

THIS COOPERATIVE PURCHASING AGREEMENT (this “Agreement”) is entered into as of October 4, 2017, between the Town of Fountain Hills, an Arizona municipal corporation (the “Town”), and Econolite Control Products, Inc., a California corporation (the “Vendor”).

RECITALS

A. After a competitive procurement process, the State of Arizona, by and through its Department of Transportation (the “State”) entered into Contract No. ADOT14-073486, dated June 24, 2014, and amended by Change Order No. 2, dated April 21, 2015, Change Order No. 6, dated March 4, 2016, Change Order No. 10, dated November 21, 2016, Change Order No. 11, dated December 21, 2016, and Change Order No. 12, dated March 24, 2017 (collectively, the “State Contract”), for the Vendor to provide traffic cabinets and controllers. A copy of the State Contract is attached hereto as Exhibit A and incorporated herein by reference, to the extent not inconsistent with this Agreement.

B. The Town is permitted, pursuant to Section 3-3-27 of the Town Code, to make purchases under the State Contract, at its discretion and with the agreement of the awarded Vendor, and the State Contract permits its cooperative use by other public entities, including the Town.

C. The Town and the Vendor desire to enter into this Agreement for the purpose of (i) acknowledging their cooperative contractual relationship under the State Contract and this Agreement, (ii) establishing the terms and conditions by which the Vendor may provide the Town with traffic cabinets and controllers, as more particularly set forth in Section 2 below on an “as-required” basis (the “Materials”) and (iii) setting the maximum aggregate amount to be expended pursuant to this Agreement related to the Materials.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing introduction and recitals, which are incorporated herein by reference, the following mutual covenants and conditions, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Town and the Vendor hereby agree as follows:

1. Term of Agreement. This Agreement shall be effective as of the date first set forth above and shall remain in full force and effect until June 23, 2018, unless terminated as otherwise provided in this Agreement or the State Contract.

2. Purchase of Materials. This is an indefinite quantity and indefinite delivery Agreement for Materials under the terms and conditions of the State Contract. The Town does

not guarantee any minimum or maximum number of purchases will be made pursuant to this Agreement. Purchases will only be made when the Town identifies a need and proper authorization and documentation have been approved. For purchase(s) determined by the Town to be appropriate for this Agreement, the Vendor shall provide the specific Materials to the Town in such quantities and configurations agreed upon between the parties, in a written invoice, quote, materials order or other form of written agreement describing the materials to be delivered (each, a “Materials Order”). Each Materials Order shall (i) contain a reference to this Agreement and the State Contract and (ii) be attached hereto as Exhibit B and incorporated herein by reference. A Materials Order submitted without referencing this Agreement and the State Contract will be subject to rejection. Vendor acknowledges and agrees that a Materials Order containing unauthorized exceptions, conditions, limitations, or provisions in conflict with the terms of this Agreement, other than Town’s project-specific requirements, is hereby expressly declared void and shall be of no force and effect.

2.1 Inspection; Acceptance. Materials are subject to final inspection and acceptance by the Town. Materials failing to conform to the requirements of this Agreement and/or the State Contract will be held at the Vendor’s risk and may be returned to the Vendor. If so returned, all costs are the responsibility of the Vendor. Upon discovery of non-conforming Materials, the Town may elect to do any or either of the following by written notice to the Vendor: (i) waive the non-conformance or (ii) bring Materials into compliance and withhold the cost of same from any payments due to the Vendor.

2.2 Cancellation. The Town reserves the right to cancel any Materials Order within a reasonable period of time after issuance. Should a Materials Order be canceled, the Town agrees to reimburse the Vendor, but only for actual and documentable costs incurred by the Vendor due to and after issuance of the Materials Order. The Town will not reimburse the Vendor for any costs incurred after receipt of the Town notice of cancellation, or for lost profits, shipment of product prior to issuance of a Materials Order or for anything not expressly permitted pursuant to this Agreement.

3. Compensation. The Town shall pay the Vendor an aggregate amount not to exceed \$3,000.00 for the Materials at the unit rates set forth in the State Contract.

4. Payments. The Town shall pay the Vendor monthly, based upon acceptance and delivery of Materials, and upon submission and approval of invoices. Each invoice shall (i) contain a reference to this Agreement and the State Contract and (ii) document and itemize all Materials delivered and accepted to date. The invoice statement shall include a record of materials delivered, time expended and work performed in sufficient detail to justify payment. Additionally, invoices submitted without referencing this Agreement and the State Contract will be subject to rejection and may be returned.

5. Israel. Vendor certifies that it is not currently engaged in, and agrees for the duration of this Agreement that it will not engage in a “boycott,” as that term is defined in ARIZ. REV. STAT. § 35-393, of Israel.

6. Conflict of Interest. This Agreement may be canceled by the Town pursuant to ARIZ. REV. STAT. § 38-511.

7. Applicable Law; Venue. This Agreement shall be governed by the laws of the State of Arizona and a suit pertaining to this Agreement may be brought only in courts in Maricopa County, Arizona.

8. Agreement Subject to Appropriation. The Town is obligated only to pay its obligations set forth in this Agreement as may lawfully be made from funds appropriated and budgeted for that purpose during the Town's then current fiscal year. The Town's obligations under this Agreement are current expenses subject to the "budget law" and the unfettered legislative discretion of the Town concerning budgeted purposes and appropriation of funds. Should the Town elect not to appropriate and budget funds to pay its Agreement obligations, this Agreement shall be deemed terminated at the end of the then-current fiscal year term for which such funds were appropriated and budgeted for such purpose and the Town shall be relieved of any subsequent obligation under this Agreement. The parties agree that the Town has no obligation or duty of good faith to budget or appropriate the payment of the Town's obligations set forth in this Agreement in any budget in any fiscal year other than the fiscal year in which this Agreement is executed and delivered. The Town shall be the sole judge and authority in determining the availability of funds for its obligations under this Agreement. The Town shall keep Vendor informed as to the availability of funds for this Agreement. The obligation of the Town to make any payment pursuant to this Agreement is not a general obligation or indebtedness of the Town. Vendor hereby waives any and all rights to bring any claim against the Town from or relating in any way to the Town's termination of this Agreement pursuant to this section.

9. Conflicting Terms. In the event of any inconsistency, conflict or ambiguity among the terms of this Agreement, any Town-approved Materials Order, the State Contract and invoices, the documents shall govern in the order listed herein. Notwithstanding the foregoing, and in conformity with Section 2 above, unauthorized exceptions, conditions, limitations or provisions in conflict with the terms of this Agreement or the State Contract (collectively, the "Unauthorized Conditions"), other than the Town's project-specific requirements, are expressly declared void and shall be of no force and effect. Acceptance by the Town of any Materials Order or invoice containing any such Unauthorized Conditions or failure to demand full compliance with the terms and conditions set forth in this Agreement or under the State Contract shall not alter such terms and conditions or relieve Vendor from, nor be construed or deemed a waiver of, its requirements and obligations in the performance of this Agreement.

10. Rights and Privileges. To the extent provided under the State Contract, the Town shall be afforded all of the rights and privileges afforded to the State and shall be the "State" (as defined in the State Contract) for the purposes of the portions of the State Contract that are incorporated herein by reference.

11. Indemnification; Insurance. In addition to and in no way limiting the provisions set forth in Section 10 above, the Town shall be afforded all of the insurance coverage and indemnifications afforded to the State to the extent provided under the State Contract, and such insurance coverage and indemnifications shall inure and apply with equal effect to the Town under this Agreement including, but not limited to, the Vendor's obligation to provide the indemnification and insurance. In any event, the Vendor shall indemnify, defend and hold

harmless the Town and each council member, officer, employee or agent thereof (the Town and any such person being herein called an “Indemnified Party”), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys’ fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever (“Claims”), insofar as such Claims (or actions in respect thereof) relate to, arise out of, or are caused by or based upon the negligent acts, intentional misconduct, errors, mistakes or omissions, in connection with the work or services of the Vendor, its officers, employees, agents, or any tier of subcontractor in the performance of this Agreement.

12. Notices and Requests. Any notice or other communication required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if (i) delivered to the party at the address set forth below, (ii) deposited in the U.S. Mail, registered or certified, return receipt requested, to the address set forth below or (iii) given to a recognized and reputable overnight delivery service, to the address set forth below:

If to the Town: Town of Fountain Hills
16705 East Avenue of the Fountains
Fountain Hills, Arizona 85268
Attn: Grady E. Miller, Town Manager

With copy to: GUST ROSENFELD P.L.C.
One East Washington Street, Suite 1600
Phoenix, Arizona 85004-2553
Attn: Andrew J. McGuire

If to Vendor: Econolite Control Products, Inc.
1250 North Tustin Avenue
Anaheim, California 92807
Attn: Lori MacIntyre

or at such other address, and to the attention of such other person or officer, as any party may designate in writing by notice duly given pursuant to this subsection. Notices shall be deemed received (i) when delivered to the party, (ii) three business days after being placed in the U.S. Mail, properly addressed, with sufficient postage or (iii) the following business day after being given to a recognized overnight delivery service, with the person giving the notice paying all required charges and instructing the delivery service to deliver on the following business day. If a copy of a notice is also given to a party’s counsel or other recipient, the provisions above governing the date on which a notice is deemed to have been received by a party shall mean and refer to the date on which the party, and not its counsel or other recipient to which a copy of the notice may be sent, is deemed to have received the notice.

[SIGNATURES ON FOLLOWING PAGES]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year first set forth above.

“Town”

TOWN OF FOUNTAIN HILLS,
an Arizona municipal corporation

CR
10/14/17

Grady E. Miller
Grady E. Miller, Town Manager

ATTEST:

Bevelyn J. Bender
Bevelyn J. Bender, Town Clerk

(ACKNOWLEDGMENT)

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On October 26th, 2017, before me personally appeared Grady E. Miller, the Town Manager of the TOWN OF FOUNTAIN HILLS, an Arizona municipal corporation, whose identity was proven to me on the basis of satisfactory evidence to be the person who he claims to be, and acknowledged that he signed the above document, on behalf of the Town of Fountain Hills.



Patricia Jo Toal
Notary Public

(Affix notary seal here)

[SIGNATURES CONTINUE ON FOLLOWING PAGE]

“Vendor”

ECONOLITE CONTROL PRODUCTS, INC.,
a California corporation

By: Lori MacIntyre

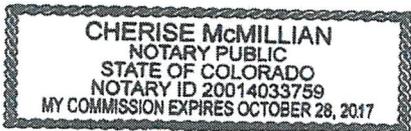
Name: LORI MacINTYRE

Title: Account Manager

(ACKNOWLEDGMENT)

STATE OF Colorado)
COUNTY OF EL PASO) ss.

On October 9, 2017, before me personally appeared LORI MacIntyre, the Account Manager of ECONOLITE CONTROL PRODUCTS, INC., a California corporation, whose identity was proven to me on the basis of satisfactory evidence to be the person who he/she claims to be, and acknowledged that he/she signed the above document on behalf of the corporation.



Cherie McMILLIAN
Notary Public

(Affix notary seal here)

EXHIBIT A
TO
COOPERATIVE PURCHASING AGREEMENT
BETWEEN
THE TOWN OF FOUNTAIN HILLS
AND
ECONOLITE CONTROL PRODUCTS, INC.

[State Contract]

See following pages.

**ATTACHMENT NO. ONE (1)
OFFER AND ACCEPTANCE**

OFFER

TO THE STATE OF ARIZONA:

The undersigned hereby offers and agrees to perform in compliance with all terms, conditions, specifications and amendments of this solicitation and any written exceptions in the offer. Signature also acknowledges receipt of all pages indicated in the Table of Contents.

072056047
Arizona State Transaction Privilege Tax License Number

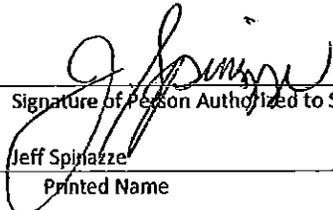
95-3196532
Federal Employer Identification

Econolite
Offeror (Company) Name

3360 East la Palma Ave.
Address

Anaheim, CA 92806
City State Zip

lmacintyre@econolite.com
Company Email Address


Signature of Person Authorized to Sign Offer

Jeff Spinazze
Printed Name

Senior Vice President - Sales
Title

jspinazze@econolite.com
Email Address

714-630-3700
Phone Number

714-630-5120
Fax Number

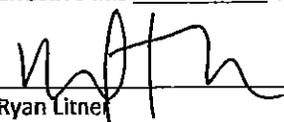
ACCEPTANCE OF OFFER (FOR DEPARTMENT USE ONLY)

The Contractor is now bound to perform based upon Contract Number ADOT14-073486 including all terms, conditions, specifications, amendments, etc., and the Contractor's offer as accepted by the state.

The Contractor is hereby cautioned not to commence any billable work or provide any material, service or construction under this contract until contractor receives a purchase order document.

State of Arizona

Effective this 24 day of June 2014


Ryan Litner

6/24/14
Awarded Date

As Procurement Officer and not personally



Home	POs	Bids	Contracts	Quotes
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Town Staff

Master Blanket Purchase Order ADOT14-073486

Header Information

Purchase Order Number:	ADOT14-073486	Release Number:	0	Short Description:	Econolite Traffic Cabinets & Controllers - Statewide
Status:	3PS - Sent	Purchaser:	Amir Sakhi	Receipt Method:	Quantity
Fiscal Year:	2014	PO Type:	Blanket	Minor Status:	
Department:	DT2ASD - ASD DIVISION DIRECTOR	Location:	2590A - P - Professional Services	Type Code:	Statewide
Alternate ID:	RX VV0292	Entered Date:	06/05/2014 04:31:44 PM	Control Code:	
Days ARO:	60	Retainage %:	0.00%	Discount %:	0.00%
Catalog ID:		Tax Rate:		Release Type:	Direct Release
Contact Instructions:	Amir Sakhi - Phone: 602-712-4398 - Email: ASakhi@azdot.gov			Actual Cost:	\$0.00

Attachments

Agency Files: [ADOT14-073486 Pre-Solicitation Documents](#), [ADOT14-073486 Contract Documents](#), [ADOT14-073486 Contractors Bid Response](#), [ADOT14-073486 Evaluation Documents](#), [ADOT14-073486 Award Documents](#), [ADOT14-073486 COI 06-19-14](#), [ADOT14-073486 Certificate of Insurance 05-27-2015](#), [ADOT14-073486 Certificate of Insurance 04-28-2016](#), [ADOT14-073486 Certificate of Insurance 04-28-2016](#), [ADOT14-073486 Contrat Amendment Five \(5\).pdf](#), [ADOT14-073486 Glenn Mara Email](#), [ADOT14-073486 Certificate of Insurance 04-28-2016](#), [ADOT14-073486 Certificate of Insurance 06-29-2017](#), [ADOT14-073486 Certificate of Insurance 06-29-2017](#)

Agency Forms:

Vendor Files:

Vendor Forms:

PO Terms

Preferred Delivery Method: Email

Payment Terms: Net 30

Shipping Method: Best Way

Shipping Terms: F.O.B., Destination

Freight Terms: Freight Prepaid

Master Blanket/Contract Vendor Distributor List

Vendor Name	Preferred Delivery Method
000018786	Email

Change Orders

Change Order #	Change Order Note	Change Order Date	Bilateral Change Order
<u>1</u>	Header 1. Promised Date changed from "2014-07-01 00:00:00.0" to "". 2. Purchaser changed from "RLITNER@AZDOT.GOV" to "SALBERTS@AZDOT.GOV".	03/13/2015 11:32:33 AM	No
<u>2</u>	Contract Amendment Two (2) - Created to update the procurement officer contact information and extend the contract through June 23, 2016. Header 1. Contact Instructions changed from "Ryan Litner - Phone: 602-712-4398 - Email: RLitner@azdot.gov" to "Suzanne Alberts, CPPB - Phone: 602-712-7816 - Email: SALberts@azdot.gov". Control Changes: 1. End date changed to 06/23/2016.	04/21/2015 08:54:28 AM	Yes
<u>3</u>	Change order created to add updated insurance documentation to attachments. Attachment Changes: Header 1. File 'ADOT14-073486 Certificate of Insurance 05-27-2015': File 'ADOT14-073486 Certificate of Insurance 05-27-2015' added .	05/27/2015 03:45:52 PM	No
<u>4</u>	Change order created to update purchaser information. Header 1. Department changed from "0140" to "DT2ASD". 2. Contact Instructions changed from "Suzanne Alberts, CPPB - Phone: 602-712-7816 - Email: SALberts@azdot.gov" to "Amir Sakhi - Phone: 602-712-4398 - Email: ASakhi@azdot.gov". 3. Location changed from "005A" to "2590A". 4. Purchaser changed from "SALBERTS@AZDOT.GOV" to "ASAKHI@AZDOT.GOV".	08/11/2015 04:22:20 PM	No
<u>5</u>	Change order added a line item for 343 Safetran camera cabinet Item 443 1. Item 443 added.	11/09/2015 12:18:57 PM	No
<u>6</u>	Change order to extend contract through June 23, 2017. Control Changes: 1. End date changed to 06/23/2017.	03/04/2016 04:09:02 PM	Yes
<u>7</u>	Change order is for administrative purposes. Item 443 1. NIGP Class Item changed from "80" to "81".	03/15/2016 11:38:23 AM	No
<u>8</u>	Change order created for administrative purposes - Added Certificate of Insurance Attachment File Changes: Header 1. File 'ADOT14-073486 Certificate of Insurance 04-28-2016': File 'ADOT14-073486 Certificate of Insurance 04-28-2016' added .	06/02/2016 12:29:44 PM	No
<u>9</u>	Change order created for administrative purposes - Added Certificate of Insurance Attachment File Changes: Header 1. File 'ADOT14-073486 Certificate of Insurance 04-28-2016': File 'ADOT14-073486 Certificate of Insurance 04-28-2016' added .	07/20/2016 03:03:33 PM	No
<u>10</u>	Change order No. 5 reduced the price for line item 411. Item 411 1. Minimum Quantity changed from "" to "0.0". 2. Unit Cost changed from "16870.00000" to "11870.0". Attachment File Changes: Header 1. File 'ADOT14-073486 Contrat Amendment Five (5).pdf': File 'ADOT14-073486 Contrat Amendment Five (5).pdf' added .	11/21/2016 08:31:27 AM	No
<u>11</u>	Change order added a line item to acquire ADOT Type IV Pre-Wired Cabinet at a lower price (one time purchase) per the attached Glenn Mara's email. Item 444 1. Item 444 added. Attachment File Changes: Header 1. File 'ADOT14-073486 Glenn Mara Email': File 'ADOT14-073486 Glenn Mara Email' added .	12/21/2016 02:19:12 PM	No
<u>12</u>	Change order extended the term of the contract from 6/23/17 to 6/23/18. Control Changes: 1. End date changed to 06/23/2018.	03/24/2017 12:01:57 PM	Yes
<u>13</u>			No



INVITATION FOR BID

STATE OF ARIZONA
ARIZONA DEPARTMENT OF TRANSPORTATION
1739 W. Jackson St., Ste A
Phoenix, AZ 85007

SOLICITATION NUMBER: ADOT14-00003726

DESCRIPTION: In accordance with A.R.S. §41-2533, Competitive Sealed Bidding the Arizona Department of Transportation invites sealed bids from qualified firms for **Econolite Traffic Cabinets and Controllers**.

PRE-OFFER CONFERENCE: Not applicable.

BID OPENING DATE AND TIME: Offers shall be received until **3:00 PM MST** on **May 28, 2014**.

SUBMITTALS: Bids in response to this solicitation shall be submitted within the State's e-Procurement system ProcureAZ (<https://procure.az.gov>) before the date/time listed in the 'BID OPENING DATE' field. Late submittals will not be considered. Offers received by the due date and time will be electronically opened. Offers submitted outside of ProcureAZ, or those that are received after the due date and time shall be rejected.

Additional information regarding submittal instructions is located within this document in the following sections: Special Instructions to Offerors and Uniform Instructions to Offerors.

QUESTIONS: Inquiries regarding the solicitation are to be submitted online through ProcureAZ using the Q&A Tab.

OFFERORS ARE STRONGLY ENCOURAGED TO READ THE ENTIRE SOLICITATION.

Ryan Litner
Procurement Officer
Phone: 602-712-4398
Email: RLitner@azdot.gov

An Equal Opportunity Agency

The Arizona Department of Transportation is committed to the principles of Equal Opportunity. The Arizona Department of Transportation, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C 2000d to 2000d-4 and Title 49, the Civil Rights Restoration Act of 1987 (Public Law 100.259). Code of Federal Regulations, Department of Transportation, Subtitle A, Office the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin or sex in consideration for an award.

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1. STATEMENT OF NEED

Pursuant to the Provisions of the Arizona Procurement Code, A.R.S. §41-2501 et seq., The Arizona Department of Transportation (ADOT), on behalf of the State of Arizona (hereinafter referred to as the Department), including all political subdivisions; cities and counties, is seeking qualified firms, here into referred to as the Contractor, to provide Econolite Traffic Cabinets, Signal Controllers, Specified Related Parts and Components, and On-Site Services for the Intelligent Transportation System programs in accordance with the Department standard specifications and all special provisions provided herein.

2. BRAND NAME ONLY

The supplies/products on this IFB have been identified as brand name only and will only satisfy the Department’s needs. Bids shall only be for the brand described in this solicitation.

A listing of the traffic cabinets and controllers which have performed acceptably under the Department’s testing, are as follows:

Brand Name	Model Numbers or Descriptions
Econolite	ASC-2
Econolite	ASC-3
Econolite	RM ASC-3
Econolite	Control cabinet Type 4 (P)
Econolite	Type 5 (R)
Econolite	Model 170/2070
Econolite	NEMA TS1 & TS2

UNIFORM TERMS AND CONDITIONS
Version 9

1. Definition of Terms

As used in this Solicitation and any resulting Contract, the terms listed below are defined as follows:

- 1.1. *"Attachment"* means any item the Solicitation requires the Offeror to submit as part of the Offer.
- 1.2. *"Contract"* means the combination of the Solicitation, including the Uniform and Special Instructions to Offerors, the Uniform and Special Terms and Conditions, and the Specifications and Statement or Scope of Work; the Offer and any Best and Final Offers; and any Solicitation Amendments or Contract Amendments.
- 1.3. *"Contract Amendment"* means a written document signed by the Procurement Officer that is issued for the purpose of making changes in the Contract.
- 1.4. *"Contractor"* means any person who has a Contract with the State.
- 1.5. *"Days"* means calendar days unless otherwise specified.
- 1.6. *"Exhibit"* means any item labeled as an Exhibit in the Solicitation or placed in the Exhibits section of the Solicitation.
- 1.7. *"Gratuity"* means a payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is received.
- 1.8. *"Materials"* means all property, including equipment, supplies, printing, insurance and leases of property but does not include land, a permanent interest in land or real property or leasing space.
- 1.9. *"Procurement Officer"* means the person, or his or her designee, duly authorized by the State to enter into and administer Contracts and make written determinations with respect to the Contract.
- 1.10. *"Services"* means the furnishing of labor, time or effort by a contractor or subcontractor which does not involve the delivery of a specific end product other than required reports and performance, but does not include employment agreements or collective bargaining agreements.
- 1.11. *"Subcontract"* means any Contract, express or implied, between the Contractor and another party or between a subcontractor and another party delegating or assigning, in whole or in part, the making or furnishing of any material or any service required for the performance of the Contract.
- 1.12. *"State"* means the State of Arizona and Department or Agency of the State that executes the Contract.
- 1.13. *"State Fiscal Year"* means the period beginning with July 1 and ending June 30.

2. Contract Interpretation

- 2.1. Arizona Law. The Arizona law applies to this Contract including, where applicable, the Uniform Commercial Code as adopted by the State of Arizona and the Arizona Procurement Code, Arizona Revised Statutes (A.R.S.) Title 41, Chapter 23, and its implementing rules, Arizona Administrative Code (A.A.C.) Title 2, Chapter 7.
- 2.2. Implied Contract Terms. Each provision of law and any terms required by law to be in this Contract are a part of this Contract as if fully stated in it.
- 2.3. Contract Order of Precedence. In the event of a conflict in the provisions of the Contract, as accepted by the State and as they may be amended, the following shall prevail in the order set forth below:
 - 2.3.1. Special Terms and Conditions;
 - 2.3.2. Uniform Terms and Conditions;
 - 2.3.3. Statement or Scope of Work;
 - 2.3.4. Specifications;
 - 2.3.5. Attachments;
 - 2.3.6. Exhibits;
 - 2.3.7. Documents referenced or included in the Solicitation.
- 2.4. Relationship of Parties. The Contractor under this Contract is an independent Contractor. Neither party to this Contract shall be deemed to be the employee or agent of the other party to the Contract.
- 2.5. Severability. The provisions of this Contract are severable. Any term or condition deemed illegal or invalid shall not affect any other term or condition of the Contract.
- 2.6. No Parole Evidence. This Contract is intended by the parties as a final and complete expression of their agreement. No course of prior dealings between the parties and no usage of the trade shall supplement or explain any terms used in this document and no other understanding either oral or in writing shall be binding.
- 2.7. No Waiver. Either party's failure to insist on strict performance of any term or condition of the Contract shall not be deemed a waiver of that term or condition even if the party accepting or acquiescing in the nonconforming performance knows of the nature of the performance and fails to object to it.

3. Contract Administration and Operation

- 3.1. Records. Under A.R.S. § 35-214 and § 35-215, the Contractor shall retain and shall contractually require each subcontractor to retain all data and other "records" relating to the acquisition and performance of the Contract for a period of five years after the completion of the Contract. All records shall be subject to inspection and audit by the State at reasonable times. Upon request, the Contractor shall produce a legible copy of any or all such records.

- 3.2. Non-Discrimination. The Contractor shall comply with State Executive Order No. 2009-09 and all other applicable Federal and State laws, rules and regulations, including the Americans with Disabilities Act.
- 3.3. Audit. Pursuant to ARS § 35-214, at any time during the term of this Contract and five (5) years thereafter, the Contractor's or any subcontractor's books and records shall be subject to audit by the State and, where applicable, the Federal Government, to the extent that the books and records relate to the performance of the Contract or Subcontract.
- 3.4. Facilities Inspection and Materials Testing. The Contractor agrees to permit access to its facilities, subcontractor facilities and the Contractor's processes or services, at reasonable times for inspection of the facilities or materials covered under this Contract. The State shall also have the right to test, at its own cost, the materials to be supplied under this Contract. Neither inspection of the Contractor's facilities nor materials testing shall constitute final acceptance of the materials or services. If the State determines non-compliance of the materials, the Contractor shall be responsible for the payment of all costs incurred by the State for testing and inspection.
- 3.5. Notices. Notices to the Contractor required by this Contract shall be made by the State to the person indicated on the Offer and Acceptance form submitted by the Contractor unless otherwise stated in the Contract. Notices to the State required by the Contract shall be made by the Contractor to the Solicitation Contact Person indicated on the Solicitation cover sheet, unless otherwise stated in the Contract. An authorized Procurement Officer and an authorized Contractor representative may change their respective person to whom notice shall be given by written notice to the other and an amendment to the Contract shall not be necessary.
- 3.6. Advertising, Publishing and Promotion of Contract. The Contractor shall not use, advertise or promote information for commercial benefit concerning this Contract without the prior written approval of the Procurement Officer.
- 3.7. Property of the State. Any materials, including reports, computer programs and other deliverables, created under this Contract are the sole property of the State. The Contractor is not entitled to a patent or copyright on those materials and may not transfer the patent or copyright to anyone else. The Contractor shall not use or release these materials without the prior written consent of the State.
- 3.8. Ownership of Intellectual Property. Any and all intellectual property, including but not limited to copyright, invention, trademark, trade name, service mark, and/or trade secrets created or conceived pursuant to or as a result of this contract and any related subcontract ("Intellectual Property"), shall be work made for hire and the State shall be considered the creator of such Intellectual Property. The agency, department, division, board or commission of the State of Arizona requesting the issuance of this contract shall own (for and on behalf of the State) the entire right, title and interest to the Intellectual Property throughout the world. Contractor shall notify the State, within thirty (30) days, of the creation of any Intellectual Property by it or its subcontractor(s). Contractor, on behalf of itself and any subcontractor(s), agrees to execute any and all document(s) necessary to assure ownership of the Intellectual Property vests in the State and shall take no affirmative actions that might have the effect of vesting all or part of the Intellectual Property in any entity other than the State. The Intellectual Property shall not be disclosed by contractor or its subcontractor(s) to any entity not the

State without the express written authorization of the agency, department, division, board or commission of the State of Arizona requesting the issuance of this contract.

- 3.9. Federal Immigration and Nationality Act. The contractor shall comply with all federal, state and local immigration laws and regulations relating to the immigration status of their employees during the term of the contract. Further, the contractor shall flow down this requirement to all subcontractors utilized during the term of the contract. The State shall retain the right to perform random audits of contractor and subcontractor records or to inspect papers of any employee thereof to ensure compliance. Should the State determine that the contractor and/or any subcontractors be found noncompliant, the State may pursue all remedies allowed by law, including, but not limited to; suspension of work, termination of the contract for default and suspension and/or debarment of the contractor.
- 3.10 E-Verify Requirements. In accordance with A.R.S. § 41-4401, Contractor warrants compliance with all Federal immigration laws and regulations relating to employees and warrants its compliance with Section A.R.S. § 23-214, Subsection A.
- 3.11 Offshore Performance of Work Prohibited.
Any services that are described in the specifications or scope of work that directly serve the State of Arizona or its clients and involve access to secure or sensitive data or personal client data shall be performed within the defined territories of the United States. Unless specifically stated otherwise in the specifications, this paragraph does not apply to indirect or 'overhead' services, redundant back-up services or services that are incidental to the performance of the contract. This provision applies to work performed by subcontractors at all tiers.

4. Costs and Payments

- 4.1. Payments. Payments shall comply with the requirements of A.R.S. Titles 35 and 41, Net 30 days. Upon receipt and acceptance of goods or services, the Contractor shall submit a complete and accurate invoice for payment from the State within thirty (30) days.
- 4.2. Delivery. Unless stated otherwise in the Contract, all prices shall be F.O.B. Destination and shall include all freight delivery and unloading at the destination.
- 4.3. Applicable Taxes.
- 4.3.1. Payment of Taxes. The Contractor shall be responsible for paying all applicable taxes.
- 4.3.2. State and Local Transaction Privilege Taxes. The State of Arizona is subject to all applicable state and local transaction privilege taxes. Transaction privilege taxes apply to the sale and are the responsibility of the seller to remit. Failure to collect such taxes from the buyer does not relieve the seller from its obligation to remit taxes.
- 4.3.3. Tax Indemnification. Contractor and all subcontractors shall pay all Federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor shall, and require all subcontractors to hold the State harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under Federal, and/or state and local laws and

regulations and any other costs including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker's Compensation.

4.3.4. IRS W9 Form. In order to receive payment the Contractor shall have a current I.R.S. W9 Form on file with the State of Arizona, unless not required by law.

4.4. Availability of Funds for the Next State fiscal year. Funds may not presently be available for performance under this Contract beyond the current state fiscal year. No legal liability on the part of the State for any payment may arise under this Contract beyond the current state fiscal year until funds are made available for performance of this Contract.

4.5. Availability of Funds for the current State fiscal year. Should the State Legislature enter back into session and reduce the appropriations or for any reason and these goods or services are not funded, the State may take any of the following actions:

4.5.1. Accept a decrease in price offered by the contractor;

4.5.2. Cancel the Contract; or

4.5.3. Cancel the contract and re-solicit the requirements.

5. Contract Changes

5.1. Amendments. This Contract is issued under the authority of the Procurement Officer who signed this Contract. The Contract may be modified only through a Contract Amendment within the scope of the Contract. Changes to the Contract, including the addition of work or materials, the revision of payment terms, or the substitution of work or materials, directed by a person who is not specifically authorized by the procurement officer in writing or made unilaterally by the Contractor are violations of the Contract and of applicable law. Such changes, including unauthorized written Contract Amendments shall be void and without effect, and the Contractor shall not be entitled to any claim under this Contract based on those changes.

5.2. Subcontracts. The Contractor shall not enter into any Subcontract under this Contract for the performance of this contract without the advance written approval of the Procurement Officer. The Contractor shall clearly list any proposed subcontractors and the subcontractor's proposed responsibilities. The Subcontract shall incorporate by reference the terms and conditions of this Contract.

5.3. Assignment and Delegation. The Contractor shall not assign any right nor delegate any duty under this Contract without the prior written approval of the Procurement Officer. The State shall not unreasonably withhold approval.

6. Risk and Liability

6.1. Risk of Loss: The Contractor shall bear all loss of conforming material covered under this Contract until received by authorized personnel at the location designated in the purchase order or Contract. Mere receipt does not constitute final acceptance. The risk of loss for nonconforming materials shall remain with the Contractor regardless of receipt.

6.2. Indemnification

6.2.1. Contractor/Vendor Indemnification (Not Public Agency) The parties to this contract agree that the State of Arizona, its departments, agencies, boards and commissions shall be indemnified and held harmless by the contractor for the vicarious liability of the State as a result of entering into this contract. However, the parties further agree that the State of Arizona, its departments, agencies, boards and commissions shall be responsible for its own negligence. Each party to this contract is responsible for its own negligence.

6.2.2. Public Agency Language Only Each party (as 'indemnitor') agrees to indemnify, defend, and hold harmless the other party (as 'indemnitee') from and against any and all claims, losses, liability, costs, or expenses (including reasonable attorney's fees) (hereinafter collectively referred to as 'claims') arising out of bodily injury of any person (including death) or property damage but only to the extent that such claims which result in vicarious/derivative liability to the indemnitee, are caused by the act, omission, negligence, misconduct, or other fault of the indemnitor, its officers, officials, agents, employees, or volunteers."

6.3. Indemnification - Patent and Copyright. The Contractor shall indemnify and hold harmless the State against any liability, including costs and expenses, for infringement of any patent, trademark or copyright arising out of Contract performance or use by the State of materials furnished or work performed under this Contract. The State shall reasonably notify the Contractor of any claim for which it may be liable under this paragraph. If the contractor is insured pursuant to A.R.S. § 41-621 and § 35-154, this section shall not apply.

6.4. Force Majeure.

6.4.1 Except for payment of sums due, neither party shall be liable to the other nor deemed in default under this Contract if and to the extent that such party's performance of this Contract is prevented by reason of force majeure. The term "*force majeure*" means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence. Without limiting the foregoing, force majeure includes acts of God; acts of the public enemy; war; riots; strikes; mobilization; labor disputes; civil disorders; fire; flood; lockouts; injunctions-intervention-acts; or failures or refusals to act by government authority; and other similar occurrences beyond the control of the party declaring force majeure which such party is unable to prevent by exercising reasonable diligence.

6.4.2. Force Majeure shall not include the following occurrences:

6.4.2.1. Late delivery of equipment or materials caused by congestion at a manufacturer's plant or elsewhere, or an oversold condition of the market;

6.4.2.2. Late performance by a subcontractor unless the delay arises out of a force majeure occurrence in accordance with this force majeure term and condition; or

6.4.2.3. Inability of either the Contractor or any subcontractor to acquire or

maintain any required insurance, bonds, licenses or permits.

6.4.3. If either party is delayed at any time in the progress of the work by force majeure, the delayed party shall notify the other party in writing of such delay, as soon as is practicable and no later than the following working day, of the commencement thereof and shall specify the causes of such delay in such notice. Such notice shall be delivered or mailed certified-return receipt and shall make a specific reference to this article, thereby invoking its provisions. The delayed party shall cause such delay to cease as soon as practicable and shall notify the other party in writing when it has done so. The time of completion shall be extended by Contract Amendment for a period of time equal to the time that results or effects of such delay prevent the delayed party from performing in accordance with this Contract.

6.4.4. Any delay or failure in performance by either party hereto shall not constitute default hereunder or give rise to any claim for damages or loss of anticipated profits if, and to the extent that such delay or failure is caused by force majeure.

6.5. Third Party Antitrust Violations. The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

7. Warranties

7.1. Liens. The Contractor warrants that the materials supplied under this Contract are free of liens and shall remain free of liens.

7.2. Quality. Unless otherwise modified elsewhere in these terms and conditions, the Contractor warrants that, for one year after acceptance by the State of the materials, they shall be:

7.2.1. Of a quality to pass without objection in the trade under the Contract description;

7.2.2. Fit for the intended purposes for which the materials are used;

7.2.3. Within the variations permitted by the Contract and are of even kind, quantity, and quality within each unit and among all units;

7.2.4. Adequately contained, packaged and marked as the Contract may require; and

7.2.5. Conform to the written promises or affirmations of fact made by the Contractor.

7.3. Fitness. The Contractor warrants that any material supplied to the State shall fully conform to all requirements of the Contract and all representations of the Contractor, and shall be fit for all purposes and uses required by the Contract.

7.4. Inspection/Testing. The warranties set forth in subparagraphs 7.1 through 7.3 of this paragraph are not affected by inspection or testing of or payment for the materials by the State.

7.5. Compliance With Applicable Laws. The materials and services supplied under this

Contract shall comply with all applicable Federal, state and local laws, and the Contractor shall maintain all applicable license and permit requirements.

7.6. Survival of Rights and Obligations after Contract Expiration or Termination.

7.6.1. Contractor's Representations and Warranties. All representations and warranties made by the Contractor under this Contract shall survive the expiration or termination hereof. In addition, the parties hereto acknowledge that pursuant to A.R.S. § 12-510, except as provided in A.R.S. § 12-529, the State is not subject to or barred by any limitations of actions prescribed in A.R.S., Title 12, Chapter 5.

7.6.2. Purchase Orders. The Contractor shall, in accordance with all terms and conditions of the Contract, fully perform and shall be obligated to comply with all purchase orders received by the Contractor prior to the expiration or termination hereof, unless otherwise directed in writing by the Procurement Officer, including, without limitation, all purchase orders received prior to but not fully performed and satisfied at the expiration or termination of this Contract.

8. State's Contractual Remedies

8.1. Right to Assurance. If the State in good faith has reason to believe that the Contractor does not intend to, or is unable to perform or continue performing under this Contract, the Procurement Officer may demand in writing that the Contractor give a written assurance of intent to perform. Failure by the Contractor to provide written assurance within the number of Days specified in the demand may, at the State's option, be the basis for terminating the Contract under the Uniform Terms and Conditions or other rights and remedies available by law or provided by the contract.

8.2. Stop Work Order.

8.2.1. The State may, at any time, by written order to the Contractor, require the Contractor to stop all or any part, of the work called for by this Contract for period(s) of days indicated by the State after the order is delivered to the Contractor. The order shall be specifically identified as a stop work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage.

8.2.2. If a stop work order issued under this clause is canceled or the period of the order or any extension expires, the Contractor shall resume work. The Procurement Officer shall make an equitable adjustment in the delivery schedule or Contract price, or both, and the Contract shall be amended in writing accordingly.

8.3. Non-exclusive Remedies. The rights and the remedies of the State under this Contract are not exclusive.

8.4. Nonconforming Tender. Materials or services supplied under this Contract shall fully comply with the Contract. The delivery of materials or services or a portion of the materials or services that do not fully comply constitutes a breach of contract. On

delivery of nonconforming materials or services, the State may terminate the Contract for default under applicable termination clauses in the Contract, exercise any of its rights and remedies under the Uniform Commercial Code, or pursue any other right or remedy available to it.

- 8.5. Right of Offset. The State shall be entitled to offset against any sums due the Contractor, any expenses or costs incurred by the State, or damages assessed by the State concerning the Contractor's non-conforming performance or failure to perform the Contract, including expenses, costs and damages described in the Uniform Terms and Conditions.

9. **Contract Termination**

- 9.1. Cancellation for Conflict of Interest. Pursuant to A.R.S. § 38-511, the State may cancel this Contract within three (3) years after Contract execution without penalty or further obligation if any person significantly involved in initiating, negotiating, securing, drafting or creating the Contract on behalf of the State is or becomes at any time while the Contract or an extension of the Contract is in effect an employee of or a consultant to any other party to this Contract with respect to the subject matter of the Contract. The cancellation shall be effective when the Contractor receives written notice of the cancellation unless the notice specifies a later time. If the Contractor is a political subdivision of the State, it may also cancel this Contract as provided in A.R.S. § 38-511.
- 9.2. Gratuities. The State may, by written notice, terminate this Contract, in whole or in part, if the State determines that employment or a Gratuity was offered or made by the Contractor or a representative of the Contractor to any officer or employee of the State for the purpose of influencing the outcome of the procurement or securing the Contract, an amendment to the Contract, or favorable treatment concerning the Contract, including the making of any determination or decision about contract performance. The State, in addition to any other rights or remedies, shall be entitled to recover exemplary damages in the amount of three times the value of the Gratuity offered by the Contractor.
- 9.3. Suspension or Debarment. The State may, by written notice to the Contractor, immediately terminate this Contract if the State determines that the Contractor has been debarred, suspended or otherwise lawfully prohibited from participating in any public procurement activity, including but not limited to, being disapproved as a subcontractor of any public procurement unit or other governmental body. Submittal of an offer or execution of a contract shall attest that the contractor is not currently suspended or debarred. If the contractor becomes suspended or debarred, the contractor shall immediately notify the State.
- 9.4. Termination for Convenience. The State reserves the right to terminate the Contract, in whole or in part at any time when in the best interest of the State, without penalty or recourse. Upon receipt of the written notice, the Contractor shall stop all work, as directed in the notice, notify all subcontractors of the effective date of the termination and minimize all further costs to the State. In the event of termination under this paragraph, all documents, data and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the State upon demand. The Contractor shall be entitled to receive just and equitable compensation for work in progress, work completed and materials accepted before the effective date of the termination. The cost principles and procedures provided in A.A.C. R2-7-701 shall apply.

9.5. Termination for Default.

9.5.1. In addition to the rights reserved in the contract, the State may terminate the Contract in whole or in part due to the failure of the Contractor to comply with any term or condition of the Contract, to acquire and maintain all required insurance policies, bonds, licenses and permits, or to make satisfactory progress in performing the Contract. The Procurement Officer shall provide written notice of the termination and the reasons for it to the Contractor.

9.5.2. Upon termination under this paragraph, all goods, materials, documents, data and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the State on demand.

9.5.3. The State may, upon termination of this Contract, procure, on terms and in the manner that it deems appropriate, materials or services to replace those under this Contract. The Contractor shall be liable to the State for any excess costs incurred by the State in procuring materials or services in substitution for those due from the Contractor.

9.6. Continuation of Performance Through Termination. The Contractor shall continue to perform, in accordance with the requirements of the Contract, up to the date of termination, as directed in the termination notice.

10. **Contract Claims**

All contract claims or controversies under this Contract shall be resolved according to A.R.S. Title 41, Chapter 23, Article 9, and rules adopted thereunder.

11. **Arbitration**

The parties to this Contract agree to resolve all disputes arising out of or relating to this contract through arbitration, after exhausting applicable administrative review, to the extent required by A.R.S. § 12-1518, except as may be required by other applicable statutes (Title 41).

12. **Comments Welcome**

The State Procurement Office periodically reviews the Uniform Terms and Conditions and welcomes any comments you may have. Please submit your comments to: State Procurement Administrator, State Procurement Office, 100 North 15th Avenue, Suite 201, Phoenix, Arizona, 85007.

1. TERM OF CONTRACT

The term of any resultant contract shall commence on the effective day of award and shall continue for twelve (12) months thereafter, unless terminated, cancelled or extended as otherwise provided herein.

2. CONTRACT EXTENSION

By mutual written contract amendment, any resultant contract may be extended for supplemental periods of up to a maximum of forty-eight (48) months.

The Department reserves the right to unilaterally extend the period of any resultant contract for thirty-one (31) days beyond the stated expiration date.

3. CHANGES

The Department reserves the right to revise the delivery and schedule and make other changes within the general Scope of Work as may be deemed necessary to best serve the interest of the Department. All changes shall be documented by formal amendments to the contract.

4. ELIGIBLE AGENCIES

Any contract resulting from this solicitation shall be for the use of all State of Arizona departments, agencies and boards. In addition, eligible universities, political subdivisions and nonprofit educational or public health institutions may participate at their discretion. In order to participate in any resultant contract, a university, political subdivision or nonprofit educational or public health institution must have entered into a cooperative purchasing agreement with the State Procurement Office as required by Arizona Revised Statutes §41-2632.

5. NON-EXCLUSIVE CONTRACT

Any contract resulting from this solicitation shall be awarded with the understanding and agreement that it is for the sole convenience of the Department. The Department reserves the right to obtain like goods or services from another source when necessary. Off-Contract Purchase Authorizations may only be approved by the Department Chief Procurement Officer. Approval shall be at the discretion of the Chief Procurement Officer and shall be conclusive, however, approval shall be granted only after a proper review and when deemed appropriate. Off-contract procurement shall be consistent with the Arizona Procurement Code.

6. ORDERING PROCESS

Upon award of a contract the Department's Procurement Group or the designated Agency may procure the specific material and/or service awarded by the issuance of a contract purchase order to the appropriate Contractor. Each contract purchase order must cite the correct contract number. The award of a contract shall be in accordance with the Arizona Procurement Code and all transactions and procedures required by the Code for public bidding shall be complied with. A contract purchase order for the awarded material and/or service that cites the correct contract number is the only document required for the using agency to order and the Contractor to deliver

the material and/or service.

Any attempts to represent any material and/or service not specifically awarded as being under contract is a violation of the contract and the Arizona Procurement Code. Any such action is subject to the legal and contractual remedies available to the State inclusive of but not limited to contract cancellation, suspension and/or debarment of the Contractor.

7. SHIPPING TERMS

Prices shall be F.O.B. Destination to any delivery location within the normal trade area (30-mile radius) of Phoenix, Tucson and Flagstaff. Shipments to other locations shall be F.O.B. Destination Freight Prepaid with transportation charges allowed and added as a separate item on the invoice. At no time may the freight charge exceed the amount normally charged for shipment from the nearest trade area specified above. Contractor shall retain title and control of all goods until they are delivered and the contract of coverage has been completed. All risk of transportation and all related charges shall be the responsibility of the Contractor. All claims for visible or concealed damage shall be filed by the Contractor. The Department will notify the Contractor promptly of any damaged goods and shall assist the Contractor in arranging for inspection.

8. DELIVERY

Deliveries shall be completed as soon as possible, but no later than **ninety (90) days** after receipt of order (ARO) for cabinets, and **thirty (30) days** after receipt of order (ARO) for controllers, unless otherwise specified by the Department. The successful bidder shall contact the Department at least forty-eight (48) hours prior to delivery.

9. ACCEPTANCE

Each item delivered shall be subject to a complete inspection by the Department. Inspection criteria shall include, but not be limited to, conformity to the specifications, workmanship, quality and materials.

If the delivered product is returned to the Contractor for corrective action prior to acceptance for any reason, an additional period of fifteen (15) calendar days shall be allowed for inspection when subsequent deliveries occur.

The Contractor shall be fully responsible for the transport of the material from and to the end user, for installation and/or for the correction of items or workmanship not in compliance with the specifications.

Product returned to the Contractor for corrective action may delay payment. Invoices will be processed for payment only after the product is accepted by the Department.

10. INVOICING AND PAYMENT

Separate invoices are required for each delivery of service and shall include at a minimum:

- Description and itemized listing of services

- Date of service
- Invoice Number
- Department contract number and purchase order number
- Price per unit and total per unit
- Applicable taxes
- Total of invoice

Invoices not sent to the proper address, or not containing the necessary and required information may delay payment to the Contractor. A Contractor whose payments are delayed due to improper invoicing shall make no claim against the Department or the State for late or finance charges.

The Department will make every effort to process payment within thirty (30) calendar days after the acceptance of services. DELIVERY OF THE SERVICE TO THE DEPARTMENT DOES NOT CONSTITUTE ACCEPTANCE, THEREFORE, ONLY THE DEPARTMENT ACCEPTANCE DATE WILL BE A VALID DATE FOR STARTING THE THIRTY (30) CALENDAR DAY PAYMENT PERIOD.

Payment due dates, including discount periods, will be computed from the date of acceptance or date of correct invoice (whichever is later) to the date the Department's warrant is mailed.

11. ESTIMATED QUANTITIES

The Department anticipates considerable activity resulting from contracts that will be awarded as a result of this solicitation; however, no commitment of any kind is made concerning quantities actually acquired and that fact should be taken into consideration by each potential Contractor.

12. PRICE REDUCTION

A price reduction adjustment may be offered at any time during the term of the contract and shall become effective upon notice.

13. PRICE ADJUSTMENT

The Department will review **fully documented** requests for price increase after any contract has been in effect for twelve (12) months. Fully documented means that the request shall present detailed information and calculations that make it clear how the claimed increase has an impact on the contract unit prices. All assumptions regarding cost factors that have an impact on the requested increase shall also be clearly identified and justified. The requested price increase must be based upon a cost increase that was clearly unpredictable at the time of the offer and can be shown to directly affect the price of the item concerned. Any price increase adjustment will only be made at the time of contract extension and will be a factor in the extension review process. The Department will determine whether the requested price increase or an alternate option, is in the best interest of the State.

14. SAFETY STANDARDS

All items supplied under this contract shall comply with the current applicable Occupational Safety and Health Standards of the State of Arizona Industrial Commission, the National Electric Code, and

the National Fire Protection Association Standards.

15. WARRANTY

The bidder warrants:

1. That all services performed hereunder shall conform to the requirements of this contract and shall be performed by qualified personnel in accordance with the highest professional standards.
2. That all items furnished hereunder shall conform to the requirements of this contract and shall be free from defects in design materials and workmanship.
3. The warranty period on workmanship and materials shall be based on a minimum of twelve (12) months from the time of delivery.

All bidders shall indicate on a separate written sheet that is submitted with their bid the exact conditions, limitations and duration of their warranty. As a minimum the warranty provided shall conform to the requirements stated herein.

16. CURRENT PRODUCTS

All offers submitted in response to this solicitation shall be in current and ongoing production; shall have been formally announced for general marketing purposes; shall be a model or type currently functioning in a user (paying customer) environment and capable of meeting or exceeding all specifications and requirements set forth in this solicitation.

17. PRODUCT DISCONTINUANCE

The Department may award contracts for particular products and/or models of equipment as a result of this solicitation. In the event that a product or model is discontinued by the manufacturer, the Department at its sole discretion may allow the Contractor to provide a substitute for the discontinued item. The Contractor shall request permission to substitute a new product or model and provide the following:

1. A formal announcement from the manufacturer that the product or model has been discontinued.
2. Documentation from the manufacturer that names the replacement product or model.
3. Documentation that provides clear and convincing evidence that the replacement meets or exceeds all specifications required by the original solicitation.
4. Documentation that provides clear and convincing evidence that the replacement will be compatible with all the functions or uses of the discontinued product or model.
5. Documentation confirming that the price for the replacement is the same as or less than the discontinued product or model.

18. VENDOR REGISTRATION

Prior to issuance of a Purchase Order and subsequent payment, the Contractor must be registered in the State of Arizona’s ProcureAZ on-line system, <https://procure.az.gov/bsa/>.

Ensure that the ProcureAZ registration matches the legal name on the Arizona Substitute W9 and that name matches the name you are registered with at the Internal Revenue Service.

19. CONTRACT ADMINISTRATION

For information regarding the Uniform and Special Terms and Conditions and Specifications referenced in this Solicitation contact:

Ryan Litner
Procurement Officer
(602) 712-4398

The Contractor shall contact the Procurement Group for guidance or direction in matters of contract interpretation or questions regarding the terms, conditions or scope of the contract. Only the Procurement Officer or authorized designee is authorized to change or amend the specific terms, conditions or provisions of the contract.

20. NOTICES

All notices, requests demands, consents, approvals, and other communications which may or are required to be served or given hereunder (for the purpose of these provisions collectively called “Notices”), shall be in writing and shall be sent by registered or certified United States mail, return receipt requested, postage prepaid, addressed to the party or parties to receive such notice as follows:

a. If intended to the State, to:

Arizona Department of Transportation, Procurement Group
1739 West Jackson Street, Ste. A, MD 100P
Phoenix, Arizona 85007-3276
Attention: Ryan Litner – Procurement Officer

b. If intended for the Contractor, to:

The Contractor Name
Address
City, State, Zip Code
Attention:

Or to such other address as either party may from time to time furnish in writing to the other by notice hereunder. Any notice so mailed shall be deemed to have been given as of the date such notice is received as shown on the return receipt. Furthermore, such notice may be given by delivering personally such notice, if intended for the State, to the Arizona Department of Transportation, Chief Procurement Officer and if intended for the Contractor, to the person named

on the Offer and Contract award Form of this Contract, or to such other person as either party may from time to time furnish in writing to the other by notice hereunder. Any notice so delivered shall be deemed to have been given as of the date such notice is personally delivered to the other party.

21. CANCELLATION FOR POSSESSION OF WEAPONS ON ADOT PROPERTY

This contract may be cancelled if contractor or any subcontractors or others in the employ or under the supervision of the contractor or subcontractors is found to be in possession of weapons.

Possession of weapons (firearms, explosive device, knife or blade of more than three inches, or any other instrument designed for lethal or disabling use) is prohibited on ADOT property.

Further, if the contractor or any subcontractors or others in the employ or under the supervision of the contractors or subcontractors are asked by an ADOT official to leave the ADOT property, they are advised that failure to comply with such a request shall result in cancellation of the contract and anyone who refuses, whether armed or not, is subject to prosecution under A.R.S. § 13-1502, "Criminal trespass in the third degree; classification."

22. INDEMNIFICATION

To the extent allowed by law, Contractor shall defend, indemnify, and hold harmless the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of, or recovered under, the Workers' Compensation Law or arising out of the failure of such contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intention of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnitee, be indemnified by Contractor from and against any and all claims. It is agreed that Contractor will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the State of Arizona, its officers, officials, agents and employees for losses arising from the work performed by the Contractor for the State of Arizona.

This indemnity shall not apply if the contractor or sub-contractor(s) is/are an agency, board, commission or university of the State of Arizona.

23. INSURANCE REQUIREMENTS

The Contractor shall furnish certificates inclusive of the following requirements to the Department. Certificate(s) shall be received within **Five (5) calendar days** of notification of tentative award by the Procurement Officer and prior to contract execution.

Vendor shall procure and maintain, until all of their obligations, including any warranty periods under this Contract, are satisfied, insurance against claims for injury to persons or damage to property that may arise from or in connection with the purchase and or use of the commodity.

The *insurance requirements* herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The State of Arizona in no way warrants that the minimum limits contained herein are sufficient to protect the Vendor from liabilities that might arise out of the purchase and use of the commodities sold under this Contract by the Vendor, his agents, representatives, employees or subcontractors and Vendor is free to purchase such additional insurance as may be determined necessary.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE:

Contractor shall provide coverage at least as broad and with limits of liability not less than those stated below.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage, personal and advertising injury and broad form contractual liability.

- General Aggregate \$2,000,000
- Products – Completed Operations Aggregate \$1,000,000
- Personal and Advertising Injury \$1,000,000
- Damage to Rented Premises \$ 50,000
- Each Occurrence \$1,000,000

a. The policy shall be endorsed (Blanket Endorsements are not acceptable) to include the following additional insured language: “The State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor.” Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.

b. Policy shall contain a waiver of subrogation endorsement (Blanket Endorsements are not acceptable) in favor of the “State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees” for losses arising from work performed by or on behalf of the Contractor.

2. Business Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

- Combined Single Limit (CSL) \$1,000,000

- a. The policy shall be endorsed (Blanket Endorsements are not acceptable) to include the following additional insured language: "The State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles owned, leased, hired or borrowed by the Contractor." Such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.
- b. Policy shall contain a waiver of subrogation endorsement (Blanket Endorsements are not acceptable) in favor of the "State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees" for losses arising from work performed by or on behalf of the Contractor.
- c. Policy shall contain a severability of interest provision.

3. Worker's Compensation and Employers' Liability

- Workers' Compensation Statutory
- Employers' Liability

Each Accident	\$1,000,000
Disease – Each Employee	\$1,000,000
Disease – Policy Limit	\$1,000,000

- a. Policy shall contain a waiver of subrogation endorsement (Blanket Endorsements are not acceptable) in favor of the "State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees" for losses arising from work performed by or on behalf of the Contractor.
- b. This requirement shall not apply to: Separately, EACH contractor or subcontractor exempt under A.R.S. § 23-901, AND when such contractor or subcontractor executes the appropriate waiver (Sole Proprietor/Independent Contractor) form.

B. ADDITIONAL INSURANCE REQUIREMENTS: The policies are to contain, or be endorsed (Blanket Endorsements are not acceptable) to contain, the following provisions:

- 1. The Contractor's policies shall stipulate that the insurance afforded the Contractor shall be primary insurance and that any insurance carried by the Department, its agents, officials, employees or the State of Arizona shall be excess and not contributory insurance, as provided by A.R.S. § 41-621 (E).
- 2. Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

C. NOTICE OF CANCELLATION: With the exception of (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this contract in the insurance

policies above shall require (30) days written notice to the State of Arizona. Such notice shall be sent directly to the Department and shall be sent by certified mail, return receipt requested.

- D. ACCEPTABILITY OF INSURERS:** Contractors insurance shall be placed with companies licensed in the State of Arizona or hold approved non-admitted status on the Arizona Department of Insurance List of Qualified Unauthorized Insurers. Insurers shall have an “A.M. Best” rating of not less than A- VII. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.
- E. VERIFICATION OF COVERAGE:** Contractor shall furnish the State of Arizona with certificates of insurance (ACORD form or equivalent approved by the State of Arizona) as required by this Contract. The certificates for each insurance policy are to be signed by an authorized representative.

All certificates and endorsements (Blanket Endorsements are not acceptable) are to be received and approved by the State of Arizona before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.

All certificates required by this Contract shall be sent directly to the Department. The State of Arizona project/contract number and project description are to be noted on the certificate of insurance. The State of Arizona reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time.

- F. APPROVAL:** Any modification or variation from the insurance requirements in this Contract shall be made by the contracting agency in consultation with the Department of Administration, Risk Management Division. Such action will not require a formal Contract amendment, but may be made by administrative action.
- G. EXCEPTIONS:** In the event the Contractor or sub-contractor(s) is/are a public entity, then the Insurance Requirements shall not apply. Such public entity shall provide a Certificate of Self-Insurance. If the contractor or sub-contractor(s) is/are a State of Arizona agency, board, commission, or university then none of the above shall apply.

All certificates required by this Contract shall be sent directly to **ADOT Procurement, Attn: Ryan Litner, 1739 West Jackson Street, MD 100P, Phoenix, Arizona 85007**. The State of Arizona project/contract number and project description are to be noted on the certificate of insurance. The State of Arizona reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time.

- B. APPROVAL:** Any modification or variation from the *insurance requirements* in this Contract shall be made by the contracting agency in consultation with the Department of Administration, Risk Management Division. Such action will not require a formal Contract amendment, but may be made by administrative action.
- C. EXCEPTIONS:** In the event the Contractor or sub-contractor(s) is/are a public entity, then the Insurance Requirements shall not apply. Such public entity shall provide a Certificate of Self-

Insurance. If the contractor or sub-contractor(s) is/are a State of Arizona agency, board, commission, or university then none of the above shall apply.

24. USEAGE REPORTS

It is an express condition of any award that the Contractor shall provide the Department's Procurement Group with a quarterly report delineating the number of items by type and the dollar value of acquisitions for each agency or political subdivision.

25. NEW PRODUCTS

The Department, at its sole discretion, may allow new products announced by manufactures represented on the contract to be incorporated. The request may be submitted at any time during the contract period and shall be supplemented with the following information. Failure to supply any of the following information with the request shall result in the State not considering the request.

- A formal announcement from the manufacturer stating that the product(s) are new and were not available at the time of contract award.
- Documentation from the manufacturer that cites the effected products by item number and description.
- Documentation that provides clear evidence that the new products are those that are within an established contract group. **NO OTHER PRODUCTS SHALL BE ALLOWED.**
- That states prices at which sales are currently or were last made to a significant number of any categories of buyers or buyers constituting the general buying public for the materials or services involved and that will be sold at the existing discount (percent %) from list price as existing products.

Approval shall be in the form of a contract amendment and shall become effective on the date specified in the amendment. Upon approval by the Department, the Contractor shall make available all electronic and hard catalog/price list updates at no additional cost to the Department.

26. CONTROLLER/CONFLICT MONITOR FIRMWARE

The Contractor shall notify the Department of any firmware/software updates within 30 days from the date they are available. The Contractor shall also notify the Department how these updates are available.

UNIFORM INSTRUCTIONS TO OFFERORS

A. Definition of Terms

As used in these Instructions, the terms listed below are defined as follows:

1. *"Attachment"* means any item the Solicitation requires an Offeror to submit as part of the Offer.
2. *"Best and Final Offer"* means a revision to an Offer submitted after negotiations are completed that contains the Offeror's most favorable terms for price, service, and products to be delivered. Sometimes referred to as a Final Proposal Revision.
3. *"Contract"* means the combination of the Solicitation, including the Uniform and Special Terms and Conditions, and the Specifications and Statement or Scope of Work; the Offer, any Clarifications, and any Best and Final Offers; and any Solicitation Amendments or Contract Amendments.
4. *"Contract Amendment"* means a written document signed by the Procurement Officer issued for the purpose of making changes in the Contract.
5. *"Contractor"* means any person who has a Contract with a state governmental unit.
6. *"Day"* means calendar days unless otherwise specified.
7. *"eProcurement (Electronic Procurement)"* means conducting all or some of the procurement function over the Internet. Point, click, buy and ship Internet technology is replacing paper-based procurement and supply management business processes. Elements of eProcurement also include Invitation for Bids, Request for Proposals, and Request for Quotations.
8. *"Exhibit"* means any document or object labeled as an Exhibit in the Solicitation or placed in the Exhibits section of the Solicitation.
9. *"Offer"* means a response to a solicitation.
10. *"Offeror"* means a person who responds to a Solicitation.
11. *"Person"* means any corporation, business, individual, union, committee, club, or other organization or group of individuals.
12. *"Procurement Officer"* means the person, or his or her designee, duly authorized by the State to enter into and administer Contracts and make written determinations with respect to the Contract.
13. *"Solicitation"* means an Invitation for Bids ("IFB"), a Request for Technical Offers, a Request for Proposals ("RFP"), a Request for Quotations ("RFQ"), or any other invitation or request issued by the purchasing agency to invite a person to submit an offer.

14. *“Solicitation Amendment”* means a change to the Solicitation issued by the Procurement Officer.
15. *“Subcontract”* means any Contract, express or implied, between the Contractor and another party or between a subcontractor and another party delegating or assigning, in whole or in part, the making or furnishing of any material or any service required for the performance of the Contract.
16. *“State”* means the State of Arizona and Department or Agency of the State that executes the Contract.

B. Inquiries

1. Duty to Examine. It is the responsibility of each Offeror to examine the entire Solicitation, seek clarification in writing (inquiries), and examine its Offer for accuracy before submitting an Offer. Lack of care in preparing an Offer shall not be grounds for modifying or withdrawing the Offer after the Offer due date and time.
2. Solicitation Contact Person. Any inquiry related to a Solicitation, including any requests for or inquiries regarding standards referenced in the Solicitation shall be directed solely to the Procurement Officer.
3. Submission of Inquiries. All inquiries related to the Solicitation are required to be submitted in the State’s eProcurement system. All responses to inquiries will be answered in the State’s eProcurement system. Any inquiry related to the Solicitation should reference the appropriate solicitation page and paragraph number. Offerors are prohibited from contacting any State employee other than the Procurement Officer concerning the procurement while the solicitation and evaluation are in process.
4. Timeliness. Any inquiry or exception to the Solicitation shall be submitted as soon as possible and should be submitted at least seven days before the Offer due date and time for review and determination by the State. Failure to do so may result in the inquiry not being considered for a Solicitation Amendment.
5. No Right to Rely on Verbal or Electronic Mail Responses. An Offeror shall not rely on verbal or electronic mail responses to inquiries. A verbal or electronic mail reply to an inquiry does not constitute a modification of the solicitation.
6. Solicitation Amendments. The Solicitation shall only be modified by a Solicitation Amendment.
7. Pre-Offer Conference. If a pre-Offer conference has been scheduled under the Solicitation, the date, time and location shall appear in the State’s eProcurement system . Offerors should raise any questions about the Solicitation at that time. An Offeror may not rely on any verbal responses to questions at the conference. Material issues raised at the conference that result in changes to the Solicitation shall be answered solely through a Solicitation Amendment.
8. Persons With Disabilities. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting the Procurement Officer. Requests shall be made as early as possible to allow time to arrange the

accommodation.

C. Offer Preparation

1. Electronic Documents. The Solicitation is provided in an electronic format. Offerors are responsible for clearly identifying any and all changes or modifications to any Solicitation documents upon submission to the State's eProcurement system. Any unidentified alteration or modification to any Solicitation, attachments, exhibits, forms, charts or illustrations contained herein shall be null and void. Offeror's electronic files shall be submitted in a format acceptable to the State. Acceptable formats include .doc and .docx (Microsoft Word), .xls and .xlsx (Microsoft Excel), .ppt and .pptx (Microsoft PowerPoint) and .pdf (Adobe Acrobat). Offerors wishing to submit files in any other format shall submit an inquiry to the Procurement Officer.
2. Evidence of Intent to be Bound. The Offer and Acceptance form within the Solicitation shall be submitted with the Offer in the State's eProcurement system and shall include a signature by a person authorized to sign the Offer. The signature shall signify the Offeror's intent to be bound by the Offer and the terms of the Solicitation and that the information provided is true, accurate and complete. Failure to submit verifiable evidence of an intent to be bound, such as a signature, shall result in rejection of the Offer.
3. Exceptions to Terms and Conditions. All exceptions included with the Offer shall be submitted in the State's eProcurement system in a clearly identified separate section of the Offer in which the Offeror clearly identifies the specific paragraphs of the Solicitation where the exceptions occur. Any exceptions not included in such a section shall be without force and effect in any resulting Contract unless such exception is specifically accepted by the Procurement Officer in a written statement. The Offeror's preprinted or standard terms will not be considered by the State as a part of any resulting Contract.
 - 3.1. Invitation for Bids. An Offer that takes exception to a material requirement of any part of the Solicitation, including terms and conditions, shall be rejected.
 - 3.2. Request for Proposals. All exceptions that are contained in the Offer may negatively impact an Offeror's susceptibility for award. An Offer that takes exception to any material requirement of the solicitation may be rejected.
4. Subcontracts. Offeror shall clearly list any proposed subcontractors and the subcontractor's proposed responsibilities in the Offer.
5. Cost of Offer Preparation. The State will not reimburse any Offeror the cost of responding to a Solicitation.
6. Federal Excise Tax. The State is exempt from certain Federal Excise Tax on manufactured goods. Exemption Certificates will be provided by the State.
7. Provision of Tax Identification Numbers. Offerors are required to provide their Arizona Transaction Privilege Tax Number and/or Federal Tax Identification number in the space provided on the Offer and Acceptance form.
 - 7.1 Employee Identification. Offeror agrees to provide an employee identification number or social security number to the State for the purposes of reporting to

appropriate taxing authorities, monies paid by the State under this Contract. If the federal identifier of the Offeror is a social security number, this number is being requested solely for tax reporting purposes and will be shared only with appropriate state and federal officials. This submission is mandatory under 26 U.S.C. § 6041A.

8. Identification of Taxes in Offer. The State is subject to all applicable state and local transaction privilege taxes. All applicable taxes shall be identified as a separate item offered in the Solicitation. When applicable, the tax rate and amount shall be identified on the price sheet.
9. Disclosure. If the person submitting this Offer has been debarred, suspended or otherwise lawfully precluded from participating in any public procurement activity, including being disapproved as a subcontractor with any federal, state or local government, or if any such preclusion from participation from any public procurement activity is currently pending, the Offeror shall fully explain the circumstances relating to the preclusion or proposed preclusion in the Offer. The Offeror shall set forth the name and address of the governmental unit, the effective date of the suspension or debarment, the duration of the suspension or debarment, and the relevant circumstances relating to the suspension or debarment. If suspension or debarment is currently pending, a detailed description of all relevant circumstances including the details enumerated above shall be provided.
10. Delivery. Unless stated otherwise in the Solicitation, all prices shall be F.O.B. Destination and shall include all freight, delivery and unloading at the destination(s).
11. Federal Immigration and Nationality Act. By signing of the Offer, the Offeror warrants that both it and all proposed subcontractors are in compliance with federal immigration laws and regulations (FINA) relating to the immigration status of their employees. The State may, at its sole discretion require evidence of compliance during the evaluation process. Should the State request evidence of compliance, the Offeror shall have five days from receipt of the request to supply adequate information. Failure to comply with this instruction or failure to supply requested information within the timeframe specified shall result in the Offer not being considered for contract award.
12. Offshore Performance of Work Prohibited. Any services that are described in the specifications or scope of work that directly serve the State or its clients and involve access to secure or sensitive data or personal client data shall be performed within the defined territories of the United States. Unless specifically stated otherwise in the specifications, this paragraph does not apply to indirect or 'overhead' services, redundant back-up services or services that are incidental to the performance of the contract. This provision applies to work performed by subcontractors at all tiers. Offerors shall declare all anticipated offshore services in the Offer.

D. Submission of Offer

1. Offer Submission, Due Date and Time. Offerors responding to a Solicitation must submit the Offer electronically through the State's eProcurement system. Offers shall be received before the due date and time stated in the solicitation. Offers submitted outside of the State's eProcurement system or those that are received after the due date and time shall be rejected.

2. Offer and Acceptance. Offers shall include a signed Offer and Acceptance form. The Offer and Acceptance form shall be signed with a signature by the person authorized to sign the Offer, and shall be submitted in the State's eProcurement system with the Offer no later than the Solicitation due date and time. Failure to return an Offer and Acceptance form may result in rejection of the Offer.
3. Solicitation Amendments. A Solicitation Amendment shall be acknowledged in the State's eProcurement system no later than the Offer due date and time. Failure to acknowledge a Solicitation Amendment may result in rejection of the Offer.
4. Offer Amendment or Withdrawal. An Offer may not be amended or withdrawn after the Offer due date and time except as otherwise provided under applicable law.
5. Confidential Information. If an Offeror believes that any portion of an Offer, protest, or correspondence contains a trade secret or other proprietary information, the Offeror shall clearly designate the trade secret and other proprietary information, using the term "confidential." An Offeror shall provide a statement detailing the reasons why the information should not be disclosed including the specific harm or prejudice that may arise upon disclosure. The Procurement Officer shall review all requests for confidentiality and provide a written determination. Until a written determination is made, a Procurement Officer shall not disclose information designated as confidential except to those individuals deemed to have a legitimate State interest. In the event the Procurement Officer denies the request for confidentiality, the Offeror may appeal the determination to the State Procurement Administrator within the time specified in the written determination. Contract terms and conditions, pricing, and information generally available to the public are not considered confidential information.
6. Public Record. All Offers submitted and opened are public records and must be retained by the State for six years. Offers shall be open and available to public inspection through the State's eProcurement system after Contract award, except for such Offers deemed to be confidential by the State.
7. Non-collusion, Employment, and Services. By signing the Offer and Acceptance form or other official contract form, the Offeror certifies that:
 - 7.1. The Offeror did not engage in collusion or other anti-competitive practices in connection with the preparation or submission of its Offer; and
 - 7.2. The Offeror does not discriminate against any employee or applicant for employment or person to whom it provides services because of race, color, religion, sex, national origin, or disability, and that it complies with an applicable federal, state and local laws and executive orders regarding employment.

E. Evaluation

1. Unit Price Prevails. In the case of discrepancy between the unit price or rate and the extension of that unit price or rate, the unit price or rate shall govern.
2. Taxes. If the products and/or services specified require transaction privilege or use taxes, they shall be described and itemized separately on the Offer. Arizona transaction privilege and use taxes shall not be considered for evaluation.

3. Prompt Payment Discount. Prompt payment discounts of thirty (30) days or more set forth in an Offer shall be deducted from the Offer for the purpose of evaluating that price.
4. Late Offers. An Offer submitted after the exact Offer due date and time shall be rejected.
5. Disqualifications. An Offeror (including each of its principals) who is currently debarred, suspended or otherwise lawfully prohibited from any public procurement activity shall have its Offer rejected.
6. Offer Acceptance Period. An Offeror submitting an Offer under the Solicitation shall hold its Offer open for the number of days from the Offer due date that is stated in the Solicitation. If the Solicitation does not specifically state a number of days for Offer acceptance, the number of days shall be one hundred twenty (120). If a Best and Final Offer is requested pursuant to a Request for Proposals, an Offeror shall hold its Offer open for one hundred twenty (120) days from the Best and Final Offer due date.
7. Waiver and Rejection Rights. Notwithstanding any other provision of the Solicitation, the State reserves the right to:
 - 7.1 Waive any minor informality;
 - 7.2. Reject any and all Offers or portions thereof; or
 - 7.3 Cancel the Solicitation.

F. Award

1. Number of Types of Awards. The State reserves the right to make multiple awards or to award a Contract by individual line items or alternatives, by group of line items or alternatives, or to make an aggregate award, or regional awards, whichever is most advantageous to the State.
2. Contract Inception. An Offer does not constitute a Contract nor does it confer any rights on the Offeror to the award of a Contract. A Contract is not created until the Offer is accepted in writing by the Procurement Officer's signature on the Offer and Acceptance form. A notice of award or of the intent to award shall not constitute acceptance of the Offer.
3. Effective Date. The effective date of the Contract shall be the date that the Procurement Officer signs the Offer and Acceptance form or other official contract form, unless another date is specifically stated in the Contract.

G. Protests

A protest shall comply with and be resolved according to Arizona Revised Statutes Title 41, Chapter 23, Article 9 and rules adopted thereunder. Protests shall be in writing and be filed with both the Procurement Officer of the purchasing agency and with the State Procurement Administrator. A protest of the Solicitation shall be received by the Procurement Officer before the Offer due date. A protest of a proposed award or of an award shall be filed within ten (10) days after the Procurement Officer makes the procurement file available for public inspection. A protest shall

include:

1. The name, address, email address and telephone number of the interested party;
2. The signature of the interested party or its representative;
3. Identification of the purchasing agency and the Solicitation or Contract number;
4. A detailed statement of the legal and factual grounds of the protest including copies of relevant documents; and
5. The form of relief requested.

H. Comments Welcome

The State Procurement Office periodically reviews the Uniform Instructions to Offerors and welcomes any comments you may have. Please submit your comments to: State Procurement Administrator, State Procurement Office, 100 North 15th Avenue, Suite 201, Phoenix, Arizona, 85007.

OFFER

TO THE STATE OF ARIZONA:

The undersigned hereby offers and agrees to perform in compliance with all terms, conditions, specifications and amendments of this solicitation and any written exceptions in the offer. Signature also acknowledges receipt of all pages indicated in the Table of Contents.

072056047
Arizona State Transaction Privilege Tax License Number

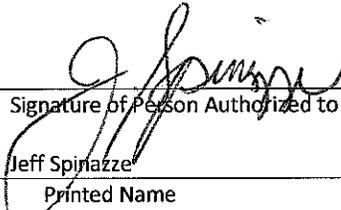
95-3196532
Federal Employer Identification

Econolite
Offeror (Company) Name

3360 East la Palma Ave.
Address

Anaheim, CA 92806
City State Zip

lmacintyre@econolite.com
Company Email Address


Signature of Person Authorized to Sign Offer

Jeff Spinazze
Printed Name Date

Senior Vice President - Sales
Title

jspinazze@econolite.com
Email Address

714-630-3700
Phone Number

714-630-5120
Fax Number

ACCEPTANCE OF OFFER (FOR DEPARTMENT USE ONLY)

The Contractor is now bound to perform based upon Contract Number _____ including all terms, conditions, specifications, amendments, etc., and the Contractor's offer as accepted by the state.

The Contractor is hereby cautioned not to commence any billable work or provide any material, service or construction under this contract until contractor receives a purchase order document.

State of Arizona

Effective this _____ day of _____ 20____

Ryan Litner Awarded Date
As Procurement Officer and not personally

State of California)
) ss
County of Orange)

Jeff Spinazze
(Affiant)

the Senior Vice President - Sales
(Title)

of Econolite
(Contractor)

the persons, corporation, or company who makes the accompanying Proposal, having first been duly sworn, deposes and says:

That such Proposal is genuine and not sham or collusive, nor made in the interest or behalf of any person not herein named, and that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a sham bid, or any other person, firm, or corporation to refrain from bidding, and that the Bidder has not in any manner sought by collusion to secure for itself an advantage over any other Bidder.

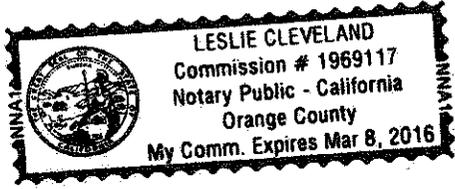
Jeff Spinazze
(Signature)
Senior V.P.
(Title)

Subscribed and sworn to before me this
27th Day of May, 2014

Leslie Cleveland
Signature of Notary Public in and for

the County of Orange

State of California



Please list the name, address, contact name, and telephone number for three (3) organizations for whom your company has provided services of a similar size and scope within the past twenty-four (24) months. These references may be checked, so please make sure all information is accurate and current.

DO NOT SUBMIT THE DEPARTMENT, DEPARTMENT CONTRACTS OR DEPARTMENT PERSONNEL AS REFERENCES.

1. ORGANIZATION: City of Phoenix
ADDRESS: 200 East Washington Street; 6th Floor
CITY/STATE/ZIP CODE: Phoenix, AZ 85003
TELEPHONE NUMBER: 603-262-4692_____
FAX NUMBER: 602-495-0345_____
DATE OF CONTRACT INITIATION: 05-15-2014_____
TYPE OF SERVICES PROVIDED: Cabinets, Controllers, Video Detection Contract_____

2. ORGANIZATION: Maricopa County_____
ADDRESS: 2901 West Durango Street_____
CITY/STATE/ZIP CODE: Phoenix, AZ 85009_____
CONTACT: Steve Poole
TELEPHONE NUMBER: 602-506-8660_____
FAX NUMBER: 602-506-4899_____
DATE OF CONTRACT INITIATION: June 5, 2013
TYPE OF SERVICES PROVIDED: Controllers, Cabinets, Video Detection, Spare Traffic Equipment parts 5-Year contract

3. ORGANIZATION: City of Tucson_____
ADDRESS: 4004 South Park, Bldg 2 Door A_____
CITY/STATE/ZIP CODE: Tucson, AZ 85714_____
CONTACT: Paul Burton_____
TELEPHONE NUMBER: 520-400-9735_____
FAX NUMBER: 520-791-5526_____
DATE OF CONTRACT INITIATION: July 22, 2013_____
TYPE OF SERVICES PROVIDED: Traffic Signal Cabinets, Video Detection, and Controllers

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See next page for public burden disclosure.)

<p>1. Type of Federal Action: <i>N/A</i></p> <p><input type="checkbox"/> a. Contract</p> <p><input type="checkbox"/> b. Grant</p> <p><input type="checkbox"/> c. Cooperative agreement</p> <p><input type="checkbox"/> d. Loan</p> <p><input type="checkbox"/> e. loan guarantee</p> <p><input type="checkbox"/> f. loan insurance</p>	<p>2. Status of Federal Action:</p> <p><input type="checkbox"/> a. bid/offer/application</p> <p><input type="checkbox"/> b. initial award</p> <p><input type="checkbox"/> c. post-award</p>	<p>3. Report type:</p> <p><input type="checkbox"/> a. initial filing</p> <p><input type="checkbox"/> b. material change</p> <p>For Material Change Only:</p> <p>year _____ quart _____</p> <p>date of last _____</p> <p>report _____</p>
<p>4. Name and Address of Reporting Entity:</p> <p><input type="checkbox"/> Prime <input type="checkbox"/> Subawardee</p> <p>Congressional District, <i>if known</i>:</p>	<p>5. If Reporting in No. 4 is a Subawardee, Enter Name and Address of Prime:</p> <p>Congressional District, <i>if known</i>:</p>	
<p>6. Federal Department Agency:</p>	<p>7. Federal Program Name/Description:</p> <p>CDFA Number, <i>if applicable</i>:</p>	
<p>8. Federal Action Number, <i>if known</i>:</p>	<p>9. Award Amount, <i>if known</i>:</p> <p>\$ _____</p>	
<p>10.a. Name and Address of Lobbying Entity (<i>if individual, last name, first name, MI</i>):</p>	<p>b. Individuals Performing Services (<i>including address if different from No. 10a</i>) (<i>last name, first name, MI</i>):</p>	
<p>11. Amount of Payment (<i>check all that apply</i>):</p> <p>\$ _____ <input type="checkbox"/> actual <input type="checkbox"/> planned</p>	<p>13. Type of Payment (<i>check all that apply</i>):</p> <p><input type="checkbox"/> a. retainer</p> <p><input type="checkbox"/> b. one-time fee</p> <p><input type="checkbox"/> c. commission</p> <p><input type="checkbox"/> d. contingent fee</p> <p><input type="checkbox"/> e. deferred</p> <p><input type="checkbox"/> f. other, specify _____</p>	
<p>12. Form of Payment (<i>check all that apply</i>):</p> <p><input type="checkbox"/> a. cash</p> <p><input type="checkbox"/> b. in-kind; specify nature _____</p> <p>value _____</p>		

NEMA Cabinet Comparison



One of the most extensive lines of weatherproof NEMA traffic cabinets designed for ultimate ease in configuration and installation.

About NEMA Cabinets

Often the first interactions that motorists, pedestrians, and bicyclists have with ITS take place at signalized intersections – where the signals and cabinets represent the front lines of signalized roadways. Econolite offers an extensive, high quality line of NEMA TS1 and TS2 cabinets, built specifically for traffic applications.

Econolite's line of traffic control cabinets are designed and manufactured for rigid pole base or pedestal mounting - zero flex and completely weather proof. Econolite cabinets are manufactured from high-quality, 5052-H32 aluminum.

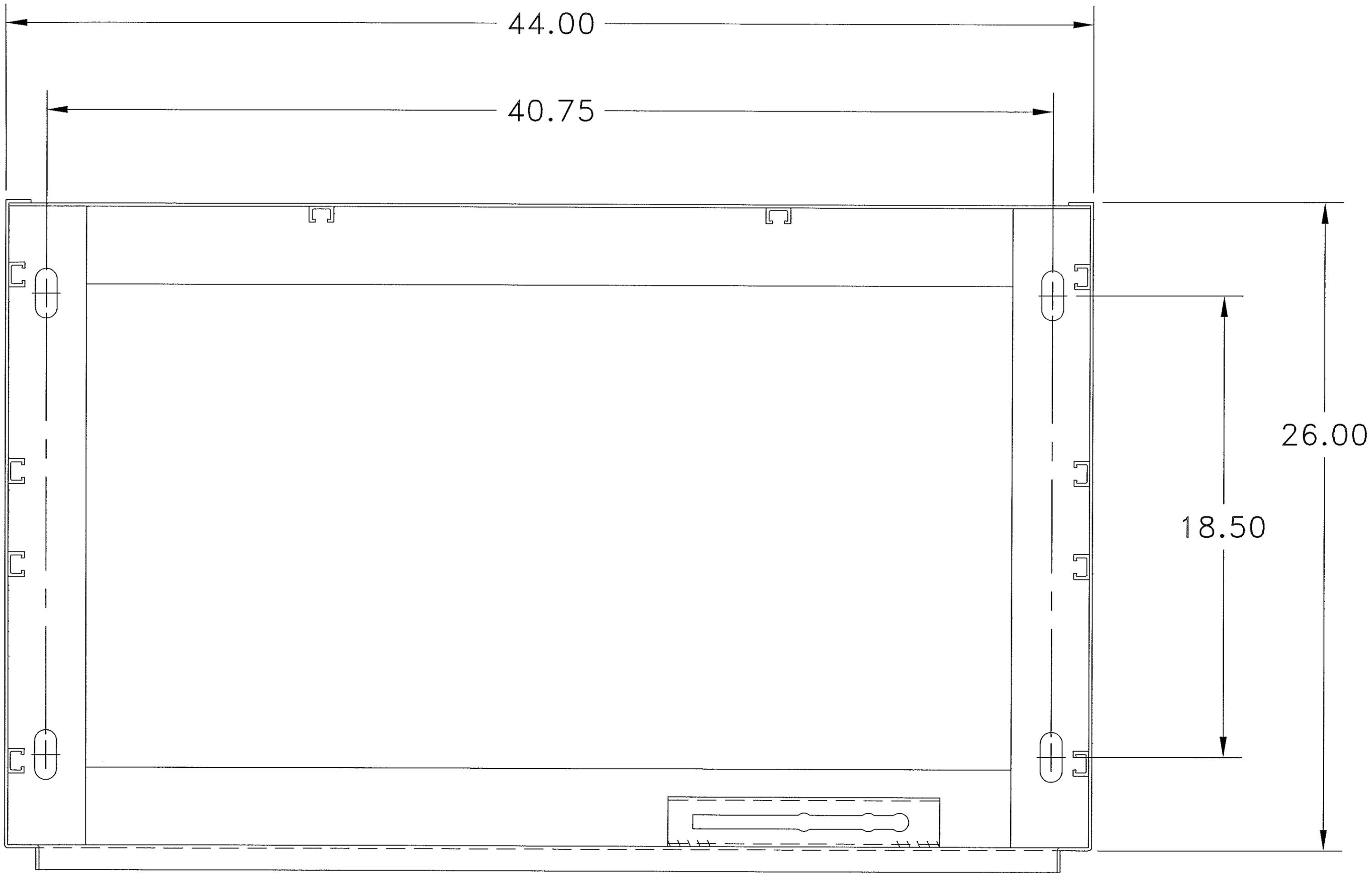
The design incorporates a door opening that is 80 percent of the front surface for easy access to the traffic controllers and racks. Econolite also accommodates a specified painted finish with a minimum 2 mm thickness powder coating process for extreme durability.

At A Glance

- Plug-N-Go "Power Bus" assembly centralizes power terminations with plug-in connectors simplifying installation and providing flexibility for future expansion with virtually no rewiring
- Modular design and components for ease of maintenance and field upgrades
- Door openings are 80 percent of front surface for greater access to equipment, reducing maintenance time and simplifying diagnostics

								
Cabinet	Super P44	36 in. G	49 in. M	60 in. M	55 in. P44	55 in. P38	77 in. R	67 in. O
Dimensions	57.25 in. H x 61 in. W x 28.65 in. D	40 in. H x 24.50 in. W x 17.25 in. D (OD)	49.00 in. H x 30.25 in. W x 16.88 in. D (OD)	60.00 in. H x 30.25 in. W x 16.88 in. D (OD)	55.00 in. H x 44.25 in. W x 26.00 in. D (OD)	55.00 in. H x 38.25 in. W x 26.00 in. D (OD)	76.75 in. H x 44.25 in. W x 26.00 in. D (OD)	67.00 in. H x 30.25 in. W x 24.75 in. D (OD)
Material	Aluminum 0.125 in.							
Finish	Natural, Powder Coat Paint, West Spray Paint							
Access	1-full size door or 2-full size doors (front and back of cabinet)							
Ventilation	Pleated media fiber filter in door 100 Cubic Feet per Minute (CFM) with thermostatic control							
Locking System	Three-point locking system with choice of locks							
Handles	Stainless steel with padlock feature							
Door Stops	Three-position locking stops on bottom of each door							
Detector Rack Assembly	Shelf-mount detector rack assembly							
Configuration	Eight vehicle phases, four pedestrian phases, and four overlaps (optional)							
Police Door	Signal on/off and flash/auto switches and auto/manual switch with police cord (optional)							
Lighting	Incandescent, Fluorescent or LED							
Shelf Drawer	Slide-out shelf/drawer storage unit (optional)							
Flasher	One slot for two-circuit flasher (optional second slot and flasher)							
Flash Transfer Relay	Receptacles for up to 6 flash transfer relays (optional 8 FTR's)							







An unmatched combination of ATC controller open architecture functionality with the latest handheld technology & applications

About Cobalt

The traffic signal controller represents one of the most important intelligent technology and communication components of a signalized intersection. As such, today's advanced traffic signal controller must integrate leading edge electronics, while supporting industry standards and specifications. Econolite continues its tradition of offering the most advanced and innovative technologies with the *Cobalt*[™] family of Advanced Transportation Controllers (ATC).

Fully meeting the industry's ATC standard 5.2b and proposed standard 6.10, *Cobalt* is designed to provide an unmatched combination of ATC controller open architecture functionality with the latest handheld technology and applications. *Cobalt* also features a breakthrough hardened seven-inch touchscreen user interface matched with a Linux-based operating system, making programming and access to functions easiest in the industry.

At A Glance

- Revolutionary, large seven-inch color TFT LCD display
- Touch-screen display for intuitive, graphical programming
- High brightness and contrast display for better outdoor readability than any other controller on the market
- Linux, open architecture real-time multi-tasking operating system
- Alternative Web browser-based user interface allows remote programming and status observation (with appropriate network connection)

Cobalt ATC Hardware

Cobalt ATC controllers may be configured with Econolite's robust *Cobalt Touch* application software package, or other pre-qualified ATC/Linux software application software meeting current ATC standards. OS and software upgrades can be made easily by USB memory stick, SD card, or Ethernet via Econolite's Windows software installation application.

Cobalt includes a high-power, Linux-based Engine Board that is compliant with the ATC 5.2b and proposed 6.10 standard for a NEMA standard TS2 Type-1 or Type-2 I/O connectors: four Ethernet ports, two USB ports, and an SD Card slot. Additionally, *Cobalt's* seven-inch color, high brightness TFT LCD module with touch screen capabilities is readable in direct sunlight, can be operated with gloved hands, and is not affected by condensation or water drops.



Hardware Details

- Supports Econolite Linux-based software or other pre-qualified ATC/Linux software
- ATC Engine Board
 - Fully compliant with the ATC Standard version 5.2b and proposed ATC Standard 6.10
 - 233MHz PowerQUICC II Pro-processor that provides 10 times more processing power than previous generation controller processor
 - 128Mbytes of DDR2 DRAM memory for application and OS program execution
 - 64 Mbytes of FLASH for storage of OS Software and user applications
 - 2MB of SRAM memory for non-volatile parameter storage
- Two integral Ethernet switches for two networks, ENET1 and ENET2
- Advanced Graphics Controller
 - Enables *Cobalt's* enhanced graphics user interface
 - Touch screen capability means the keyboard never has to be used
 - Replaces traditional text menu selection with graphical selections
- Two USB 2.0 ports used to:
 - Update application software
 - Upload or download configuration
 - Upload logged data
- Datakey socket for an optional 3.3V Datakey, 8MB
- SD Memory Card socket
- CPU Active LED

- Three communications ports standard:
 - NEMA-ATC SDLC serial port 1
 - 25 pin serial port 2
 - 9 pin console serial port
- Built in speaker for enhanced audio controller feedback
- Integral carrying handle in back of controller
- Power Supply
 - Meets all requirements of ATC standard v6.10.
 - External 24VDC protected by a self-resetting electronic fuse
- Operating system
 - Linux 2.6.3x or later kernel and Board Support Package (BSP)
 - Compliant to ATC Standard V. 5.2.b Annex B specifications

Hardware Options

- Two models:
 - TS2 type 2 connectors
 - TS2 type 1 connector
- Communications module options:
 - FSK Module that can be configured for RS232 operation
 - 2070 TEES 2009 standard 6A, 6B, and 7A plug-in modules
- Datakey 3.3V, 8MB

Capabilities



- Exit to interrupted vehicle phase
- Use timing from an exit timing plan once, then the normal timing plan
- Exit to a selected phase first then to free or coordination (selectable)
- Exit free for one complete cycle then resume coordination (no transition)
- Exit to the phases where the most drivers have waited the longest

Time Base Features

- 200 schedule programs, configurable for any combination of months, days of the week, and days of the month
- Fixed or floating exception day programs that override the day plan event on a specific day
- 50 day plan events that can use any of the 100 action plans
- 100 action plans that can be used by any of the 50 day plans

Status Display Features

- Keyboard selection of detailed dynamic status displays for each of the main controller unit functions including: controller, coordinator, preemptor, time base, detectors, and MMU

Detector Features

- 64 vehicle detectors
- 16 system or speed detectors
- Unique detector types and operation
- Individually assignable to phase and functions
- Lock/non-lock function by detector
- 4 detector plans
- 4 detector diagnostics plans
- Logging of volume and/or occupancy assignable by detector
- 4 pedestrian diagnostic plans

Logging Features

- Separate buffers for detector activity, detector failures, controller events, and MMU events
- Logged data can be:
 - Viewed on front panel
 - Retrieved via a RS-232 terminal port, USB flash drive, or SD Card
 - Transferred via telemetry to a traffic management center

Systems

- NTCIP level 2 compliance
- Supports Centracs®, Aries® and TS2 NTCIP Level 2-compliant pre-qualified central applications

Control Features

- 16 phases, 8 configurable concurrent groups in 4 timing rings
- 16 vehicle overlaps that can be configured as normal, -green/yellow, PPLT/FYA or Econolite
- 16 pedestrian phases that can be configured as pedestrian overlaps
- Exclusive pedestrian operation
- Dynamic max operation
- Extendable walk and pedestrian clearance
- Advanced Walk
- Bike input and green timing
- Adaptive red clearance

Coordination Features

- 120 coordination event plans, each with its own cycle, offsets, split timing, coordinated phases, vehicle and pedestrian recall and phase omits
- Offset and split entries displayed in percent or seconds
- Automatic permissive periods
- Fixed or floating force-off
- Crossing arterial coordination
- Quick-sync feature

Preemption Features

- Ten preemption sequences. Each may be configured as priority, first-come-first-serve, or bus preemption operation
- ECPI interlock to provide added monitoring
- Railroad gate-down input and timing.
- Conditional delay when entering preemption
- Multiple exit preemption options
 - Exit to selected exit phase
 - Exit to coordination (no transition)
 - Exit to interrupted pedestrian phase

Cobalt Software

Cobalt Touch Software

- Software features, plus the following:
 - Full-color graphic interface with touch-screen capability
 - Provides menu selection using touch selections.
 - Programming uses touch data entry allowing touch gestures to select yes/no, select enable/disable, pull-down list selections and more
 - Screen can be swiped to advance to another screen
- Field-proven for over 8 years
- Allows for an agency-specific default database
- Automatic backup of controller database to optional Datakey or manual back up to USB flash drive
- Context sensitive help
- 100-statement logic processor to test inputs, outputs or timers and take actions based on the results

Optional Software

- Transit Signal Priority
- Centracs Adaptive
- Intersection Monitor

Basic Specifications

- Temperature
 - -34.6°F to +165°F (-37°C to +74°C)
- Power
 - 110VAC @ 50/60 HZ or optional 220/240 VAC @ 50/60 HZ
 - Fuse protection for either 110 or 220/240V
 - Protection for the 24VDC supply is provided by a resettable electronic fuse
- Dimensions
 - 14.84"W x 8.50"H x 6.13"D



ASC/3 Series NEMA TS2/Actuated Controllers



The ASC/3 was designed using the latest electronics technology, which offers the user a controller that is more reliable, easier to maintain, and interchangeable.

About ASC/3

The traffic signal controller is one of the most important components of a transportation system. Playing a crucial role in the safety and management of traffic, its importance is undeniable. The controller is also at the heart of any intelligent transportation system (ITS), enhancing transportation efficiency and safety.

The ASC/3 builds upon the proven software, design flexibility, and unique feature set of Econolite's popular ASC/2 family of controllers. All firmware in the ASC/3 is stored in flash memory. This allows for quick and easy intersection programming and software updates in the field without changing hardware or extensive training. The ASC/3 firmware is easily updated in the background while the intersection remains in operation. Once updated, the controller only needs to be power cycled to allow the new firmware to take control. The majority of the electronic components of the ASC/3 are contained in one easy-to-replace module.

At A Glance

- Windows-based remote user interface (optional)
- Advanced controller, coordinator, and preemptor features
- Enhanced transient and environmental protection
- Protocol support for ECPIP, NTCIP, and AB3418
- Software support for *Centracs*®, *icons*®, *Aries*®, and any compliant pre-qualified applications
- 16 x 40 LCD display with adjustable contrast

Controller Models

The ASC/3 is available in two models. Both share a common enclosure, power supply, processor, keyboard, display and optional data key telemetry and Ethernet modules.

- *ASC/3-1000*: Dedicated to the TS2 Type-1 environment
- *ASC/3-2100*: Can operate in any TS1/TS2 Type-1 and TS2 Type-2 environment

ASC/3-1000: NEMA TS2 / Type-1

The *ASC/3-1000* meets and exceeds all requirements of the NEMA TS2 Type-1 Standard. Its interface controls all inputs and outputs over a high-speed RS-485 serial bus (Port 1) with digital addressing that simplifies cabinet wiring. This bus also interfaces directly to a TS2 Malfunction Management Unit (MMU) for enhanced intersection monitoring.

ASC/3-2100: NEMA TS2 Type-2 / TS1

The *ASC/3-2100* meets and exceeds all the requirements of the NEMA TS2 Type-2 Standard. It also provides downward compatibility to the Econolite KMC-8000, ASC-8000, *ASC/2-2100* and *ASC/2S-2100* controllers as well as other NEMA TS1 controllers.

An optional 25-pin telemetry connector matches the KMC-8000 and *ASC-8000*. This allows the *ASC/3-2100* to be used as a direct replacement for older controllers.

Control Features

- 16 phases, 8 configurable concurrent groups in 4 timing rings
- All standard NEMA TS1, TS2 and NTCIP functions
- 16 timed vehicle overlaps
- 16 pedestrian phases that can be configured as pedestrian overlaps
- Exclusive pedestrian operation
- Soft vehicle recall
- Conditional service
- Dynamic max operation
- Bike minimum green, second walk and pedestrian clear times, plus a walk and pedestrian clearance maximum
- Advanced walk
- Pedestrian clear protect
- Red maximum
- Vehicle extension 2
- Guaranteed minimum green, walk, ped clear, yellow, red, red revert and overlap green
- Redundant monitoring of the MMU status to enhance intersection monitoring
- 4 timing plans selectable on TOD or coordination plan basis or for one cycle following preemption
- Powerful logic processor

Basic Specifications

- Temperature
 - -34C (-30F) to +74C (+165F)
- Power
 - A built-in, high-efficiency switching power supply generates all required internal voltages as well as 24 VDC for external use.
 - Fuses are mounted on the front of the controller for 120 VAC input and 24 VDC output.
- Dimensions
 - 10 1/2" x 15 1/4" x 9" (H x W x D)





ASC/3 RackMount NEMA TS2/C1 Platform Actuated Controllers



The ASC/3 RackMount (RM) combines the features of NEMA TS2-Type 1 and NTCIP, along with new hardware, capable of interfacing with the Caltrans C1 platform (33x style RackMount cabinets) and the familiar software features of the ASC/3-1000 and ASC/3-2100, allowing a lower cost of ownership and expanded adaptability for developing traffic management strategies.

Description

The ASC/3 RM is the latest in a series of Advanced System Controllers, now offered by Safetran. It builds on the proven software, design flexibility, and unique feature set of the popular ASC/3 family of controllers.

The ASC/3 RM has been developed to fully comply with NEMA TS2-Type 1 requirements. In addition, the design, manufacturing, and testing of the ASC/3-RM uses processes controlled by the latest ISO quality standards.

The ASC/3 RM provides an updated rack mount hardware design that allows it to serve as the traffic control platform for present and future traffic management environments. This is accomplished through NEMA TS2 and NTCIP compliance, along with Caltrans 33x type cabinet compatibility.

The ASC/3 RM was designed using the latest technology, which offers the user a controller that is more reliable, easier to maintain, and interchangeable with other NEMA TS2-Type 1 or 170/2070 type controllers while continuing to offer a competitive price.

All firmware in the ASC/3 RM is stored in flash memory. This allows for quick and easy software updates in the field without changing hardware. The ASC/3 RM firmware is easily updated in the background while the intersection remains in operation. Once updated, the controller only needs to be power-cycled to allow the new firmware to take control. The majority of the electronic components of the ASC/3 RM are contained on one easy-to-replace module.

The ASC/3 RM uses the largest LCD display module (16 lines x 40 characters) in the industry to simplify the user interface. This display provides improved viewing in all lighting conditions. In addition, a display heater enhances the display performance in temperatures below 0° F (-18° C).

Controller Models

The ASC/3 RM is available in two models. Both share a common enclosure, power supply, processor, I/O, and optional data key, telemetry and Ethernet modules. The difference is that one has the Caltrans C1 and C11 connector in addition to the standard NEMA TS2-1 Port 1 connector (SDLC).

Features

- Exceeds NEMA TS2 requirements
- State-of-the-art manufacturing and design for reliability, maintainability, and cost-effectiveness
- Windows-based remote user interface (optional)
- Advanced controller, coordinator, and preemptor features
- Ethernet support for 10/100 Base T networks
- Optional Transit Signal Priority (TSP) software module
- Optional Intersection Monitor (IM) software module
- 16 x 40 LCD display with adjustable contrast
- Enhanced transient and environmental protection
- Software support for *icons*®, *Aries*®, and any NTCIP 1202 compliant applications
- Software and upgrades can be easily downloaded via laptop or PDA
- User-programmable default database
- Database and logs uploadable via laptop or PDA
- Data key backup and restore capabilities





ASC/3 RM: NEMA TS2/Type 1

The I/O option for the ASC/3 RM-1000 meets and exceeds all the requirements of the NEMA TS2-Type 1 Standard. Its interface controls all inputs and outputs over a high-speed RS-485 serial bus (Port 1) with digital addressing that simplifies cabinet wiring.

This bus also interfaces directly to a TS2 Malfunction Management Unit (MMU) for enhanced intersection monitoring.

ASC/3 RM: C1 Platform

The ASC/3 RM-2000C1 provides downward compatibility to 33x/170 type controller cabinets, providing standard

interfaces to the Caltrans specified C1 connector for 332/336 type cabinets. Other Caltrans cabinets (ie. 303, 330, etc.) can be configured through the ASC/3 I/O Mapper Utility. The Caltrans specified C11 connector is also mapped to provide 8 phase red outputs and 20 vehicle detector inputs. The ASC/3 RM-2000C1 works with any standard 2070 CMU.

Control features

- 16 phases, 8 configurable concurrent groups in 4 timing rings
- All standard NEMA TS1, TS2 and NTCIP functions
- 16 timed vehicle overlaps
- 16 pedestrian phases that can be configured as pedestrian overlaps
- Exclusive pedestrian operation
- Soft vehicle recall
- Conditional service
- Dynamic max operation
- Bike minimum green, second walk and pedestrian clear times, plus a walk and pedestrian clearance maximum
- Advanced walk
- Pedestrian clear protect
- Red maximum
- Vehicle extension 2
- Guaranteed minimum green, walk, ped clear, yellow, red, red revert and overlap green
- Redundant monitoring of the MMU status to enhance intersection monitoring
- 4 timing plans selectable on TOD or coordination plan basis or for one cycle following preemption
- Powerful logic processor

Coordinator features

- 120 coordination patterns, each with its own cycle, off-sets and split plan selection
- 120 split plans, each with its own coordinated phases, vehicle and pedestrian recall and phase omits
- Offset and split entries displayed in percent or seconds
- Automatic permissive periods
- Fixed or floating force-off
- Crossing arterial coordination
- Quick-sync feature

Preemptor features

- Ten preemption sequences. Each may be configured as priority, first-come-first-serve, or bus preemption operation
- Interlock to provide added monitoring safety

Time Base features

- 200 schedule programs, configurable for any combination of months, days of the week, and days of the month
- 36 fixed or floating exception day programs that override the day plan event on a specific day
- 50 day plan events that can use any of the 100 action plans
- 100 action plans that can be used by any of the 50 day plans

Status display feature

- Keyboard selection of detailed dynamic status displays for each of the main controller unit functions including: controller, coordinator, preemptor, time base, detectors, and MMU

Detector features

- 64 vehicle detectors
- 16 system or speed detectors
- Unique detector types and operation
- Individually assignable to phase and functions
- Lock/non-lock function by detector
- 4 detector plans
- 4 detector diagnostics plans
- Logging of volume and/or occupancy assignable by detector
- 4 pedestrian diagnostic plans

Logging features

- Separate buffers for detector activity, detector failures, controller events, and MMU events
- Logged data can be viewed on front panel, retrieved via RS-232 terminal port, or transferred via telemetry to a traffic management center

Telemetry features

- Can be configured to be compatible with KMC-10,000 or ASC/2M-1000 zone masters and *icons* or *Aries* systems
- 1200/9.6K bps FSK 2/4 wire telemetry module (optional)
- Multiple RS-232 1200-115.2 Kbps serial ports
- Multi-protocol support: ECPIP (Standard), AB3418 (Standard), NTCIP (Standard)
- Standard 100mps Ethernet port

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Model 170E Microcomputer/6800/68HC11



The 170E controller provides an ideal combination of flexibility of open architecture hardware with the power and performance of 2070/170 controller software packages.

About the 170E Controller

The intelligence behind the signalized intersection is the traffic signal controller. The 2070/170 line of Safetran controllers represents some of the most widely used and trusted in the transportation industry. Combined with the traffic cabinet, the controller manages traffic flow and ensures safety for all roadway users.

For more than three decades, Safetran (an Econolite Group company) has provided industry leading innovation and service by maintaining a close alignment with its customers. Safetran's customer focus and employee experience in providing traffic management solutions for New York Department of Transportation (NYDOT), California Department of Transportation (CalTrans), Federal Highway Administration (FHWA), and Transportation Electrical Equipment Specifications (TEES) projects and standards is unequalled in the industry.

At A Glance

- Multipurpose microcomputer:
 - Traffic control
 - Ramp metering
 - Sign control
 - Sprinkler control
- Meets or exceed the Caltrans requirements
- Accepts two plug-in communication modules
- Designed for ease of maintenance
- Low wattage, removable power supply



CPU Module

The CPU houses the 6800/68HC11 MPU, the quad Asynchronous Communication Interface Adapters (ACIA), up to 32K RAM, decode logic, and bus drivers. The optional HC11 board allows the installation of up to 128K of EPROM on the CPU, thus eliminating the requirement of a program module. The optional 4701B PROM module still communicates to the HC11 board from the communication link on the edge connector. An optional blank panel is available to cover the PROM module slot.

Input Module

The single input module draws heavily on High Speed CMOS, TTL Compatible (HCT) technology. Lightning protection devices have been added to enhance surge protection. All input circuits are resident on this module to facilitate maintenance. The power start-up and super capacitor circuitry are also located on the module.

Chassis

The model 170E chassis was designed on a CAD system. Numerically controlled production equipment guarantees perfectly matched assemblies. A printed circuit motherboard assembly provides reliable interconnect between modules and a separate bus for the I/O increases noise immunity. In addition, separate logic ground paths are supplied from the power supply to each module. Vertically mounted, the C1, C2, C20, C30, and C40 connectors are located on the back of the Model 170E. To facilitate the installation of the program module, card guides have been extended to the front panel. A hinged front panel is held in place by two thumb-screws. When closed, the front panel prevents the modules from backing out of the connectors. The Model 170E may be equipped with two communication modules.

Output Module

The single output module contains the entire output circuitry for the 170E. Operation can be easily diagnosed by simply exchanging output modules.

Power Supply Module

The Model 170E is equipped with a linear power supply. All components of the power supply, including capacitors, transformers, and power transistors are located on this removable module. Connection between the power supply and the motherboard is via a floating 15-pin, power-rated socket connector.

Standby Power

The Model 170E is supplied with super capacitors which supply standby power to volatile memory devices and the downtime accumulator circuitry.

M170E Module

An optional M170E Module can be provided to replace the 412C Program Module functions when the internal programming option is desired. The M170E Module has the 16 dip-switches and the real-time clock circuitry found on the 412C Program Module.

Applications

The Model 170E has been designed to manage virtually all traffic applications, from two-phase intersection control to computerized, networked systems. In addition, with the implementation of various software packages, the Model 170E has found applications in ramp-metering control, matrix sign control, sprinkler control, pump control, and changeable lane control.

Basic Specifications

- Temperature
 - -35°F to 165°F (-37°C to +74°C)
- Power
 - 115 VAC, 60 Hz (40 W)
- Dimensions
 - 7 in. H x 19 in. W x 11 in. D
- Weight
 - 19 lbs



Safetran Cabinet Comparison



Unmatched NYDOT, Caltrans, Co DOT, FHWA and TEES project and standards experience goes into every one of our standard and custom cabinets.

About Safetran Cabinets

A division of the Econolite Group since 2006, Safetran is committed to providing premium quality and on-time delivery of traffic controllers, enclosures/cabinets, and 170/2070 traffic system technologies to the transportation management market. Our collective focus and employee experience with New York Department of Transportation (NYDOT), California Department of Transportation (Caltrans), Federal Highway Administration (FHWA), and Transportation Electrical Equipment Specifications (TEES) projects and standards is unmatched.

Safetran is known for its quick and comprehensive responsiveness to industry and transportation agency needs, as well as developing roadmaps for the integration of emerging technologies. Safetran's commitment to eco-friendly initiatives and quality assurance also ensures that we provide the best environmentally conscious solutions available. It has been this flexibility and depth of knowledge that enables us to meet evolving customer demands and custom specifications.

At A Glance

- Extensive line of NYDOT, Caltrans, FHWA and TEES spec weatherproof enclosures for virtually all ITS applications
- Modular designs include EIA 19-inch rack for ease of configuration and maintenance
- Multiple door configurations, including dual front and back doors reduce maintenance and upgrade times
- Hybrid and custom cabinets enable transition to modern serial-based technology

Function	Traf							
								
Cabinet	303-6	303-8	330	332	334	332L	334L	336L
Dimensions	36 in. H x 20 in. W x 18 in. D	36 in. H x 20 in. W x 18 in. D	51 in. H x 22 in. W x 18 in. D	66 in. H x 24 in. W x 30 in. D	66 in. H x 24 in. W x 30 in. D	66 in. H x 24 in. W x 30 in. D	66 in. H x 24 in. W x 30 in. D	46 in. H x 24 in. W x 22 in. D
Ship Weight	140 lbs	145 lbs	200 lbs	300 lbs	290 lbs	300 lbs	290 lbs	238 lbs
Material	Aluminum 0.125 in. (door and top)/0.188 in (sides and bottom)			Aluminum 0.125 in		Aluminum 0.125 in. , 5052 H32		
Finish	Anodized, bare, painted, or anti-grafti			Anodized, bare, painted, or anti-grafti				
UL Label	NON UL			Cabinet Housing UL 3R listed, UL File #E256326 (lat				
Access	Single front door			Two full-size doors (one				
Mounting	Side of pole - two sturdy pole-mounting brackets (optional) and Top of Post - post-top mounting hardware (optional)	Side of pole - two sturdy pole-mounting brackets (optional) and Top of Post - post-top mounting hardware (optional)	Base-mounted - 4-3/4 in. 16 in. anchor bolts (optional), Side of pole - two sturdy pole-mounting brackets, top of post - post-top mounting hardware (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Pole or bas mount
Configuration	Six vehicle/pedestrian phases	Eight vehicle/pedestrian phases	14 vehicle/pedestrian phases	Eight vehicle phases, four pedestrian phases, four overlaps (optional)	Nine AC switched outputs	Eight vehicle phases, four pedestrian phases, four overlaps (optional)	Nine AC switched outputs	Eight vehicle phases, fo pedestrian phases, fo overlaps (optional)

ffic Control Cabinets

		Photo Not Available						
336S	336	337	338	332D	333SD	ITS Type 1	ITS Type 2	ITS Type 3
46 in. H x 24 in. W x 22 in. D	36 in. H x 24 in. W x 22 in. D	35.5 in. H x 22 in. W x 17.25 in. D	45 in. H x 22 in. W x 17.25 in. D	66.77 in. H x 48.45 in. W x 30 in. D	62 in. (54 + 8 in. base adapter) H x 44 in. W x 26 in. D	66 in. H x 24 in. W x 30 in. D (same as 332/334 shell) 2-door	46 in. H x 24 in. W x 22 in. D (same as 336S shell)	66 in. H x 44 in. W x 26 in. D
280 lbs	265 lbs	140 lbs	150 lbs	350 lbs	300 lbs	280 lbs	280 lbs	525 lbs
Aluminum 0.125 in		Aluminum 0.128 in		Aluminum 0.125 in		Aluminum 0.125 in		
	Anodized, bare, or painted	Anodized, mill finish, bare, painted, or anti-grafti		Bare, painted, or anti-grafti		Anodized, bare, painted, or anti-grafti		
Label optional)		NON UL		Cabinet Housing UL 3R listed, UL File #E256326 (label optional)		NON UL		
One front, one rear)				Four doors (two front, two rear)		Two full-size doors (one front, one rear)		Four doors (two front, two rear)
Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional), side of pole - two sturdy pole-mounting brackets (optional), top of post - post-top mounted hardware (optional)	Base-mounted - 2-3/4 in. x 16 in. anchor bolts (optional), side of pole - two sturdy pole-mounting brackets (optional), top of post - post-top mounted hardware (optional)	Pedestal, side of pole or base	Pedestal, side of pole or base	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)
Eight vehicle phases, four pedestrian phases, four overlaps (optional)	Eight vehicle phases and four pedestrian phases	Six vehicle/pedestrian phases	Eight vehicle phases, four pedestrian phases, two overlaps (optional)	Eight vehicle phases, four pedestrian phases, four overlaps (optional)	Eight vehicle phases, four pedestrian phases, four overlaps (optional)	Customer specified	Customer specified	Customer specified

Function	ITS Roadway Cabinets	Intelligent / Hybrid Cabinets		BBS Cabinets	
					
Cabinet	332 Cabinet Enclosure	Hybrid "S"	Hybrid 332 RM	303B	Caltrans BBS
Dimensions	66 in. H x 24 in. W x 30 in. D	59.93 in. H x 44 in. W x 31.5 in D (26" at base)	66 in. H x 24 in. W x 30 in. D	36 in. H x 20 in. W x 17 in D (battery space - 20.25 in x 13.30 in)	56 in. H X 26 in. W x 12 in. D
Ship Weight	225 lbs	350 lbs	300 lbs	95 lbs	100 lbs
Material	Aluminum 0.125 in	Aluminum 0.125 in		Aluminum 0.125 in. (door and top)/0.188 in (sides and bottom)	Aluminum 0.125 in
Finish	Anodized, bare, painted, or anti-graffiti	Natural, unpainted aluminum, unless otherwise specified		Anodized, bare, painted, or anti-graffiti	
UL Label	Cabinet Housing UL 3R listed, UL File #E256326 (label optional)	NON UL	Cabinet Housing UL 3R listed, UL File #E256326 (label optional)	NON UL	
Access	Two full-size doors (one front, one rear)	Four full-size doors (two front, two rear)	Two full-size doors (one front, one rear)	Single front door with Cam latch	Single front door
Mounting	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Base-mounted - same base configuration as a NEMA P44 cabinet with anchor bolts (optional)	Base-mounted - 4-3/4 in. x 16 in. anchor bolts (optional)	Side of cabinet, side of pole, top of post, post-top mounted hardware, side of cabinet, or base mount (mounting hardware optional)	Side of cabinet or base mount
Configuration	Customer to specify, ventilation, lighting, power requirements, shelves, drawers, din rails, terminal blocks, PDA requirements, surge requirements, mounting, cabinet finish and material.	Eight vehicle phases, four pedestrian phases, four overlaps (optional) - 8 flash transfer relay sockets for complex intersections and flash color change plugs for ease of flash configuration	Eight vehicle phases, four pedestrian phases, four overlaps (optional)	UPS/BATTERY	UPS/BATTERY



2

1

NOTES: (UNLESS OTHERWISE SPECIFIED)

NOTAS: (A MENOS QUE SE ESPECIFIQUE LO CONTRARIO)

① FOR P3 & P4 ONLY.

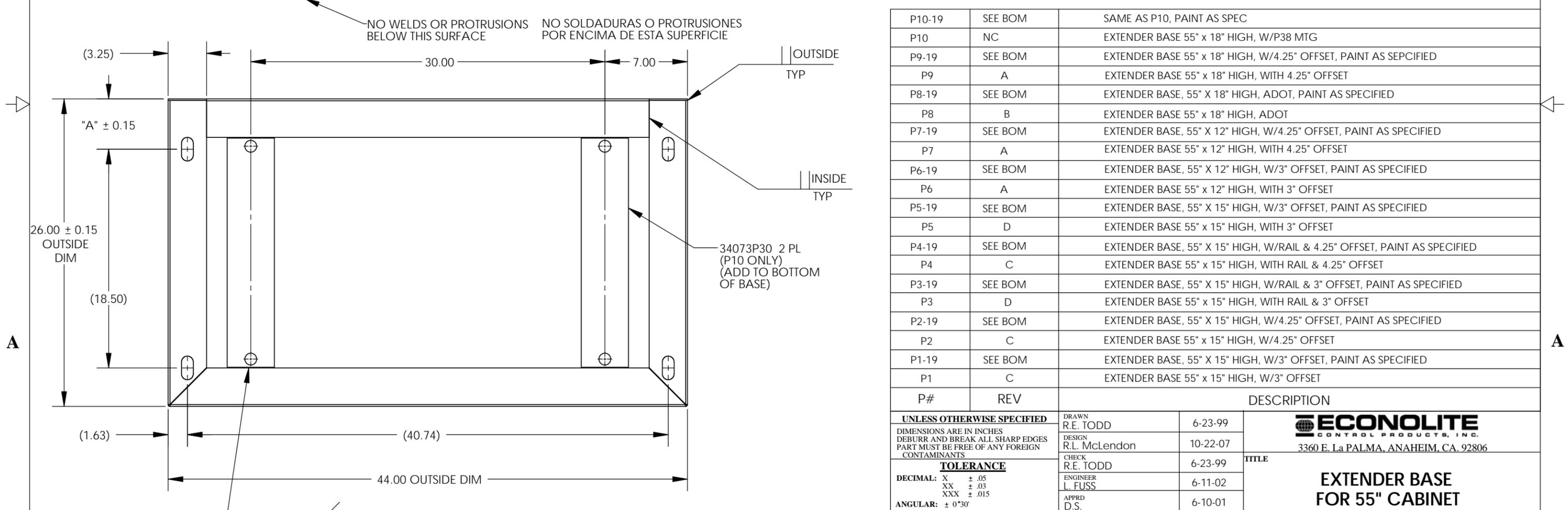
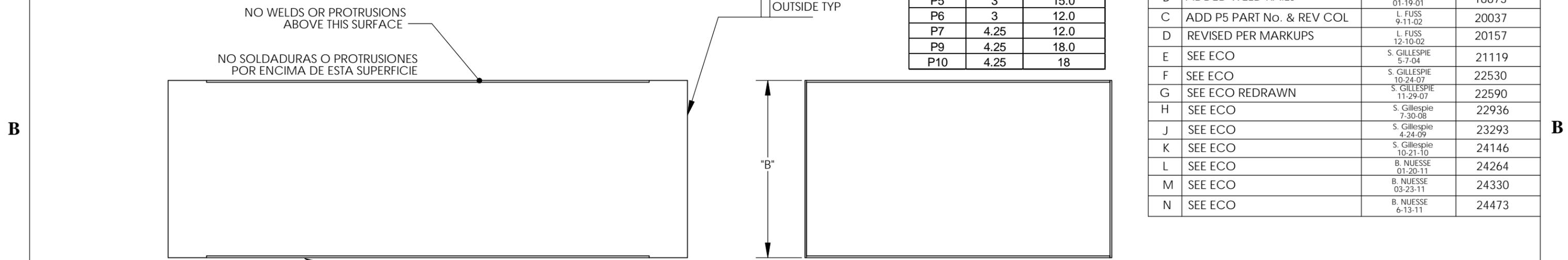
① PARA P3 Y P4 SOLAMENTE.

② MATERIAL: 5052-H32 AL ALLOY
P1, P2, P3, P4, P6, P7, P9, P10 - .125 THK
P5, P8 - .190 THK

② MATERIAL: HOJA DE ALEACION DE ALUMNIO 5052-H32
P1, P2, P3, P4, P6, P7 P9 Y P10 DE 0.125 PULGADASE GRUESO
P5 Y P8 DE 0.190 PULGADASE GRUESO

PART NO.	DIM "A"	DIM "B"
P1	3	15.0
P2	4.25	15.0
P3	3	15.0
P4	4.25	15.0
P5	3	15.0
P6	3	12.0
P7	4.25	12.0
P9	4.25	18.0
P10	4.25	18

REVISIONS			
REV.		APPRD / DATE	E.C.O. NUMBER
1	REDRAWN ON CAD, WAS B SZ AND REDESIGNED PER MFG;		
NC	INITIAL RELEASE	R.E. TODD 06-23-99	18273
A	CHANGED PER MARKUPS	R.L. McLENDON 05-09-00	18507
B	ADDED WELD RAILS	R.L. McLENDON 01-19-01	18873
C	ADD P5 PART No. & REV COL	L. FUSS 9-11-02	20037
D	REVISED PER MARKUPS	L. FUSS 12-10-02	20157
E	SEE ECO	S. GILLESPIE 5-7-04	21119
F	SEE ECO	S. GILLESPIE 10-24-07	22530
G	SEE ECO REDRAWN	S. GILLESPIE 11-29-07	22590
H	SEE ECO	S. Gillespie 7-30-08	22936
J	SEE ECO	S. Gillespie 4-24-09	23293
K	SEE ECO	S. Gillespie 10-21-10	24146
L	SEE ECO	B. NUESSE 01-20-11	24264
M	SEE ECO	B. NUESSE 03-23-11	24330
N	SEE ECO	B. NUESSE 6-13-11	24473



P10-19	SEE BOM	SAME AS P10, PAINT AS SPEC
P10	NC	EXTENDER BASE 55" x 18" HIGH, W/P38 MTG
P9-19	SEE BOM	EXTENDER BASE 55" x 18" HIGH, W/4.25" OFFSET, PAINT AS SEPCIFIED
P9	A	EXTENDER BASE 55" x 18" HIGH, WITH 4.25" OFFSET
P8-19	SEE BOM	EXTENDER BASE, 55" X 18" HIGH, ADOT, PAINT AS SPECIFIED
P8	B	EXTENDER BASE 55" x 18" HIGH, ADOT
P7-19	SEE BOM	EXTENDER BASE, 55" X 12" HIGH, W/4.25" OFFSET, PAINT AS SPECIFIED
P7	A	EXTENDER BASE 55" x 12" HIGH, WITH 4.25" OFFSET
P6-19	SEE BOM	EXTENDER BASE, 55" X 12" HIGH, W/3" OFFSET, PAINT AS SPECIFIED
P6	A	EXTENDER BASE 55" x 12" HIGH, WITH 3" OFFSET
P5-19	SEE BOM	EXTENDER BASE, 55" X 15" HIGH, W/3" OFFSET, PAINT AS SPECIFIED
P5	D	EXTENDER BASE 55" x 15" HIGH, WITH 3" OFFSET
P4-19	SEE BOM	EXTENDER BASE, 55" X 15" HIGH, W/RAIL & 4.25" OFFSET, PAINT AS SPECIFIED
P4	C	EXTENDER BASE 55" x 15" HIGH, WITH RAIL & 4.25" OFFSET
P3-19	SEE BOM	EXTENDER BASE, 55" X 15" HIGH, W/RAIL & 3" OFFSET, PAINT AS SPECIFIED
P3	D	EXTENDER BASE 55" x 15" HIGH, WITH RAIL & 3" OFFSET
P2-19	SEE BOM	EXTENDER BASE, 55" X 15" HIGH, W/4.25" OFFSET, PAINT AS SPECIFIED
P2	C	EXTENDER BASE 55" x 15" HIGH, W/4.25" OFFSET
P1-19	SEE BOM	EXTENDER BASE, 55" X 15" HIGH, W/3" OFFSET, PAINT AS SPECIFIED
P1	C	EXTENDER BASE 55" x 15" HIGH, W/3" OFFSET

P#	REV	DESCRIPTION	
UNLESS OTHERWISE SPECIFIED			
DRAWN R.E. TODD		6-23-99	 3360 E. La PALMA, ANAHEIM, CA. 92806 EXTENDER BASE FOR 55" CABINET
DESIGN R.L. McLendon		10-22-07	
CHECK R.E. TODD		6-23-99	
ENGINEER L. FUSS		6-11-02	
APPRD D.S.		6-10-01	
MATERIAL		②	
FINISH PAINT PER SALES ORDER			
SIZE B	CAGE CODE OFEW7	DRAWING NO. SK3051	REV. N
SCALE: 1:8	CAD FILE: SK3051.SLDRW	Sheet 1 OF 5	

P10 SHOWN

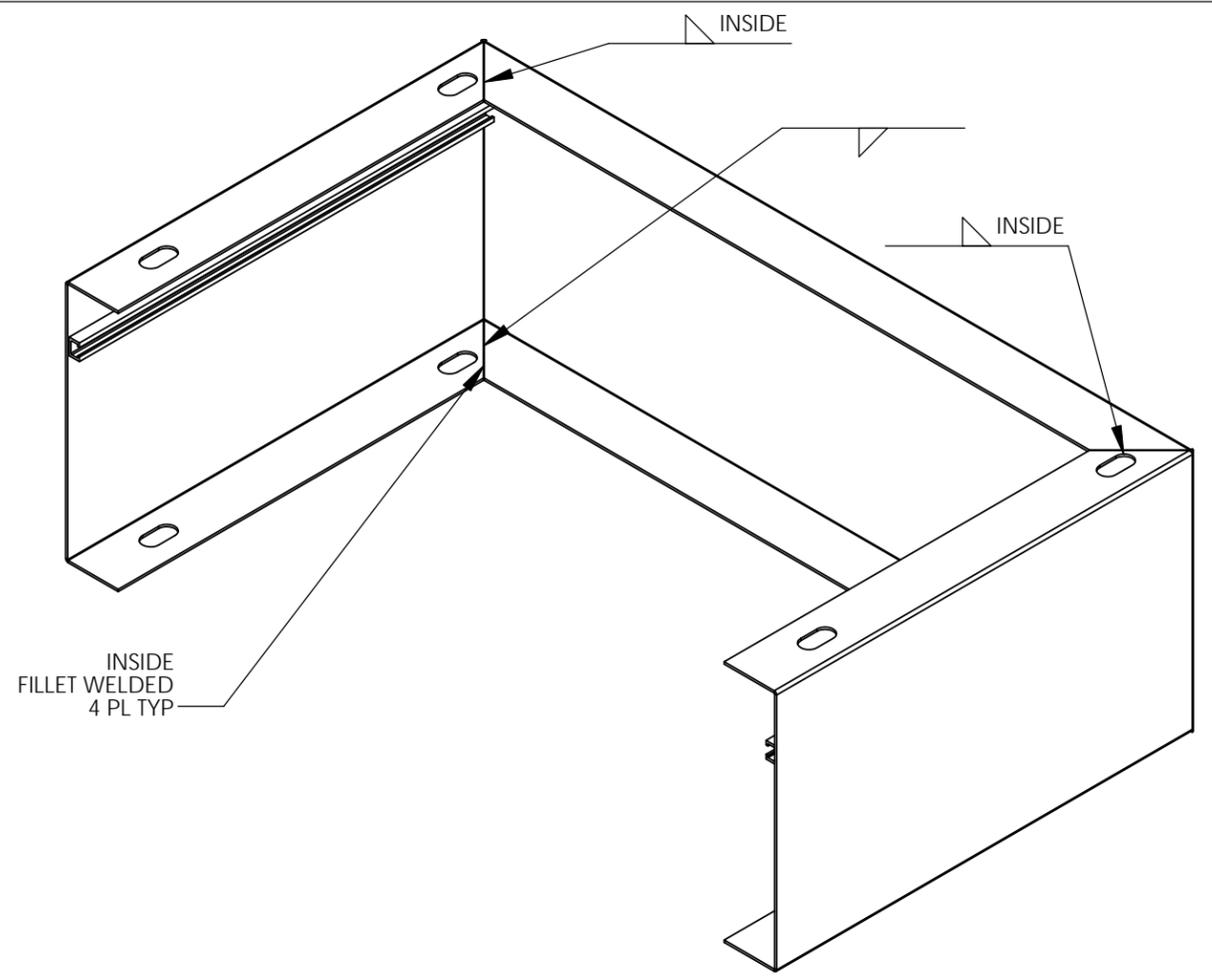
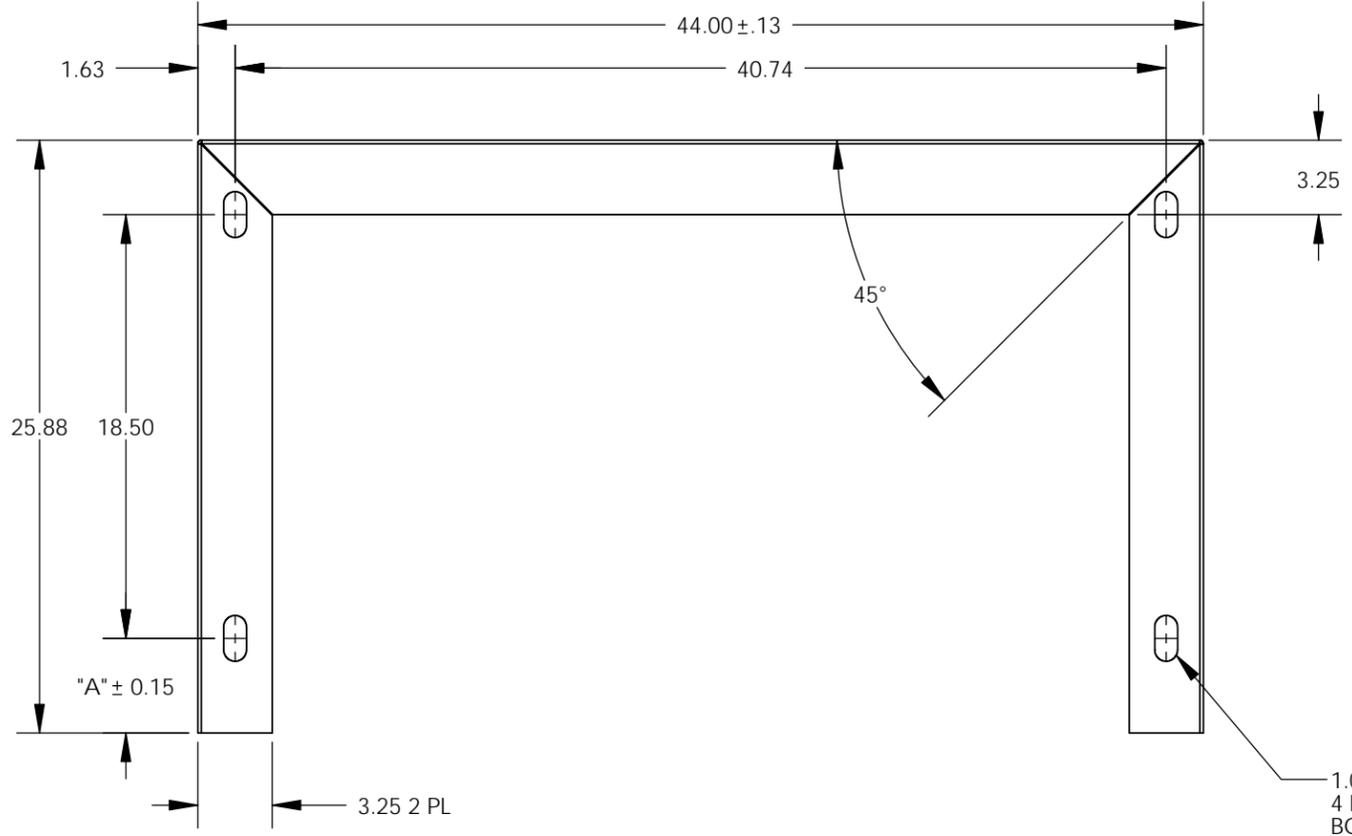
MODEL FILE: SK3051P1 mod.SLDPR

DO NOT SCALE DRAWING

2



1

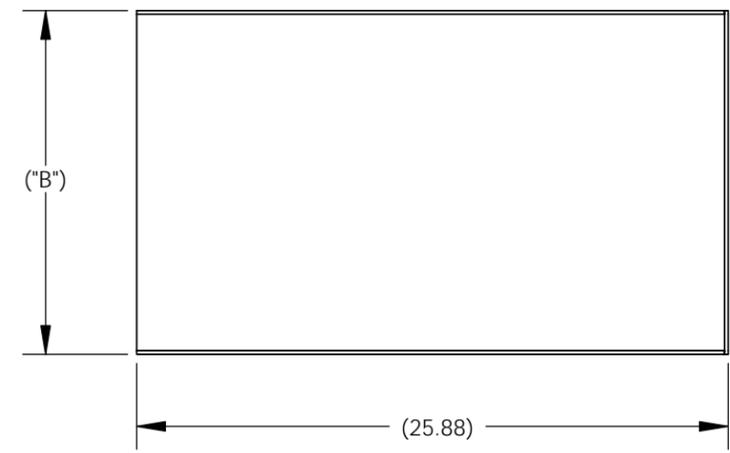
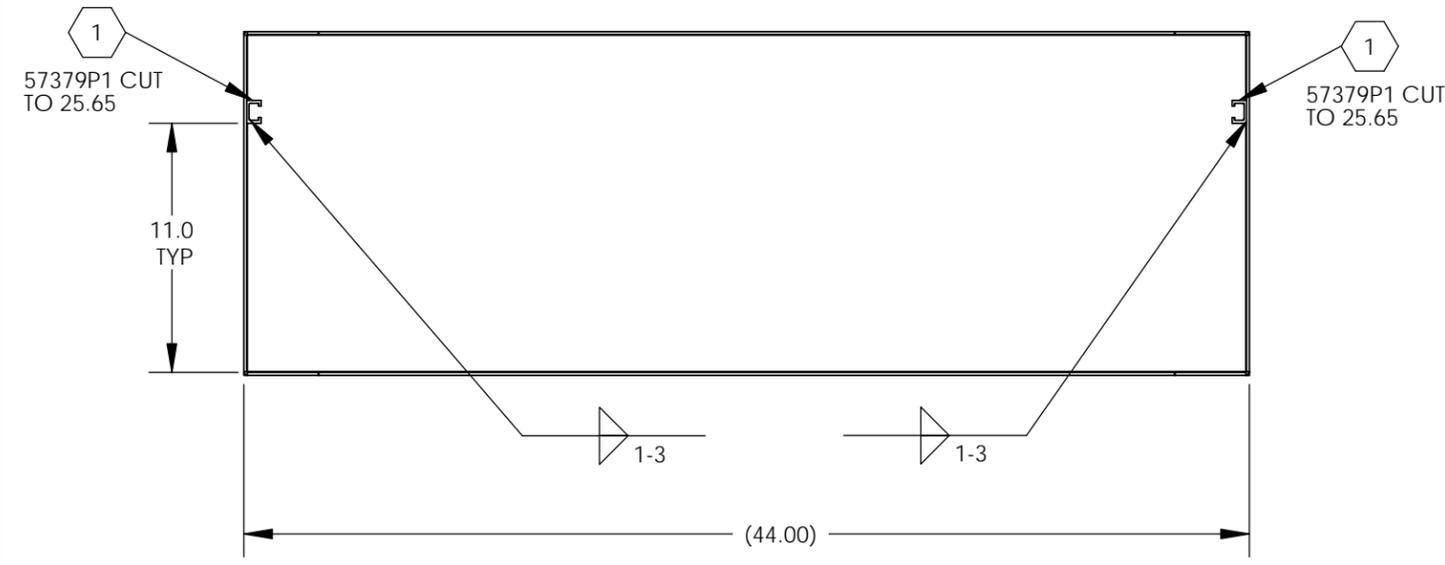


B

B

A

A



PART OF P3 SHOWN

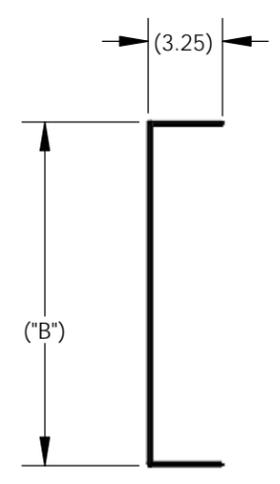
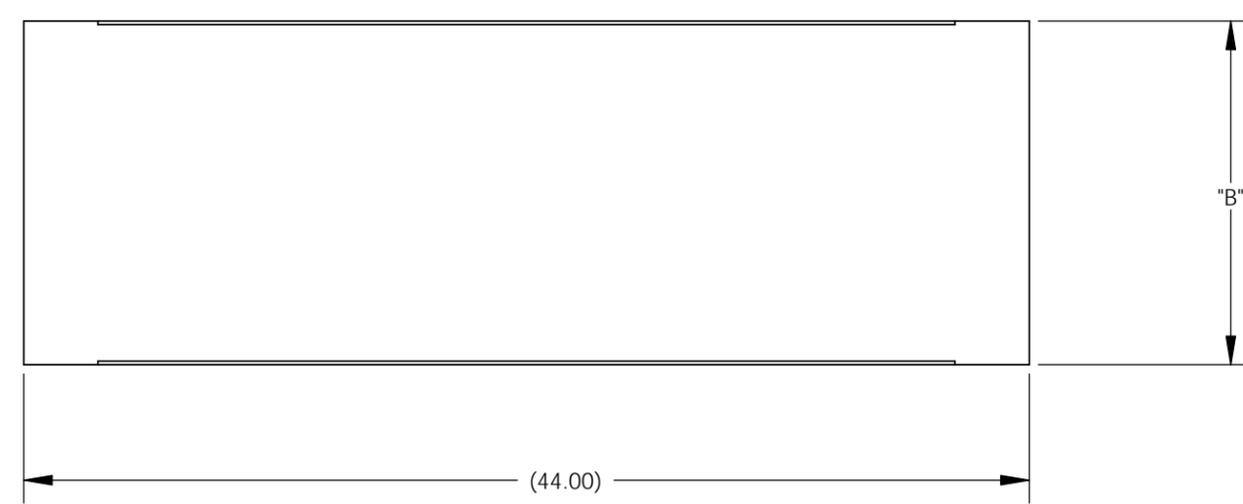
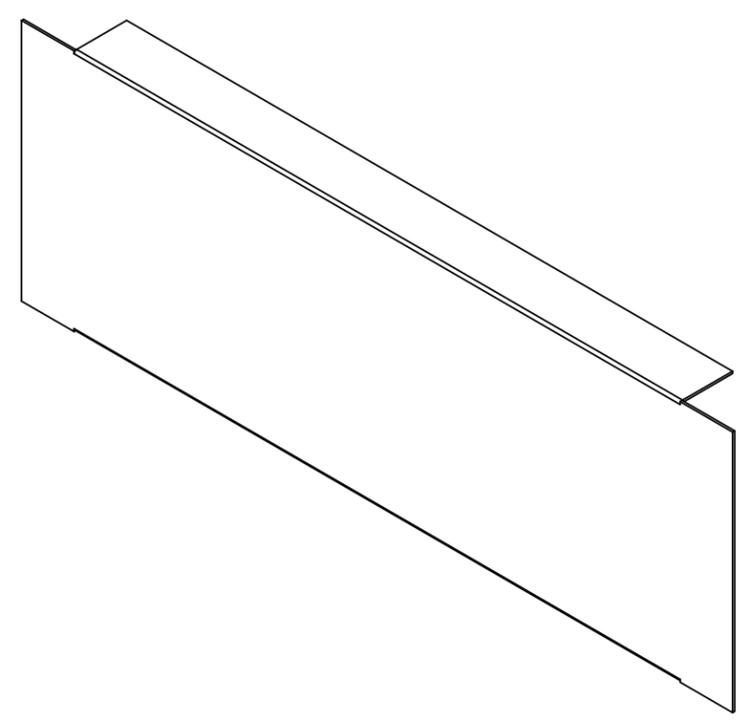
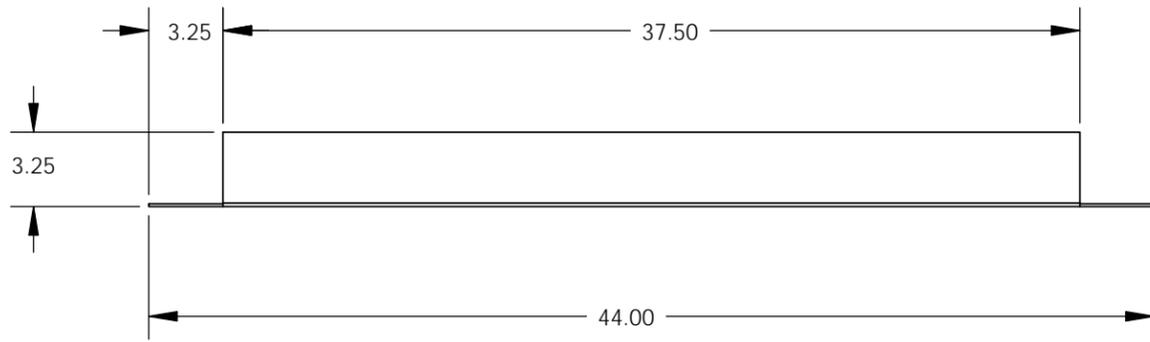
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ECONOLITE CONTROL PRODUCTS, INC. 3360 E. La PALMA, ANAHEIM, CA 92806			
EXTENDER BASE FOR 55" CABINET			
DO NOT SCALE DRAWING			
SIZE B	CAGE CODE OFEW7	DRAWING NO. SK3051	REV. N
SCALE: 1:8	CAD FILE: SK3051.SLDDRW	SHEET 2 OF 5	



2

1



B

B

A

A

PART OF P3 SHOWN

ECONOLITE
CONTROL PRODUCTS, INC.
3360 E. La PALMA, ANAHEIM, CA 92806

**EXTENDER BASE
FOR 55" CABINET**

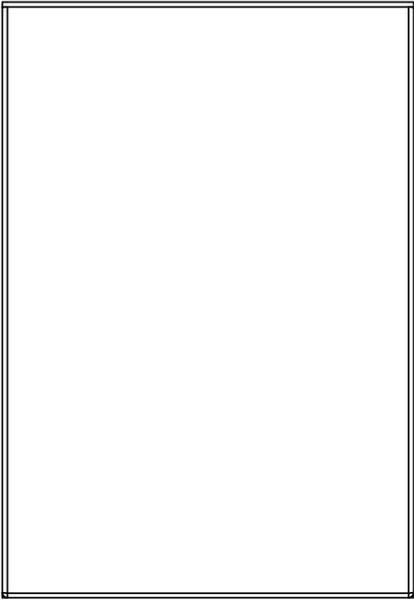
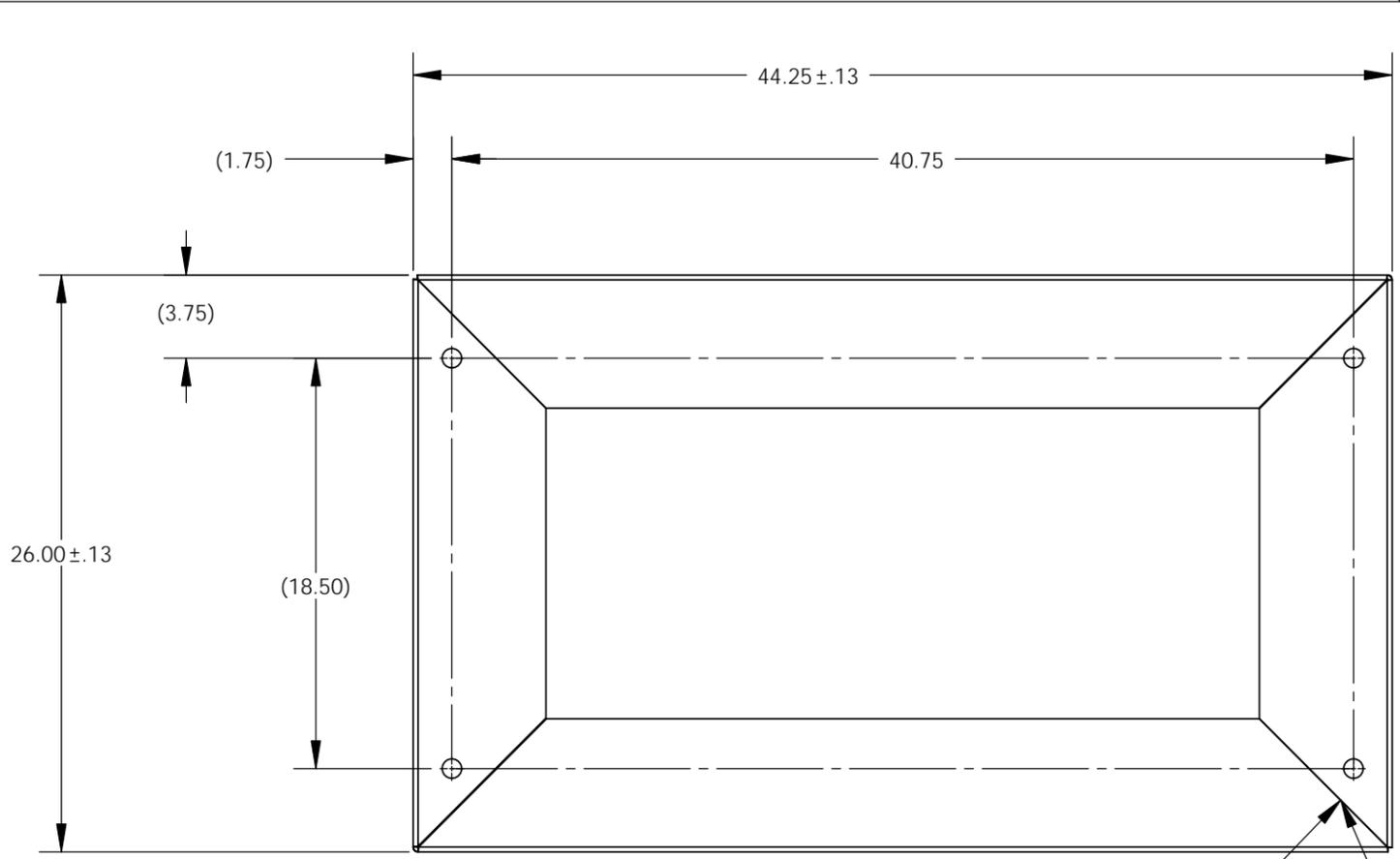
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SIZE B	CAGE CODE OFEW7	DRAWING NO. SK3051	REV. N
SCALE: 1:8	CAD FILE: SK3051.SLDDRW	SHEET 3 OF 5	

2

1



CONTINUOUS INSIDE
4 PL TOP AND BOTTOM ALL 4 INSIDES
2 PL

NO WELDS OR PROTRUSIONS ABOVE THIS SURFACE
NO SOLDADURAS O PROTRUSIONES POR ENCIMA DE ESTA SUPERFICIE

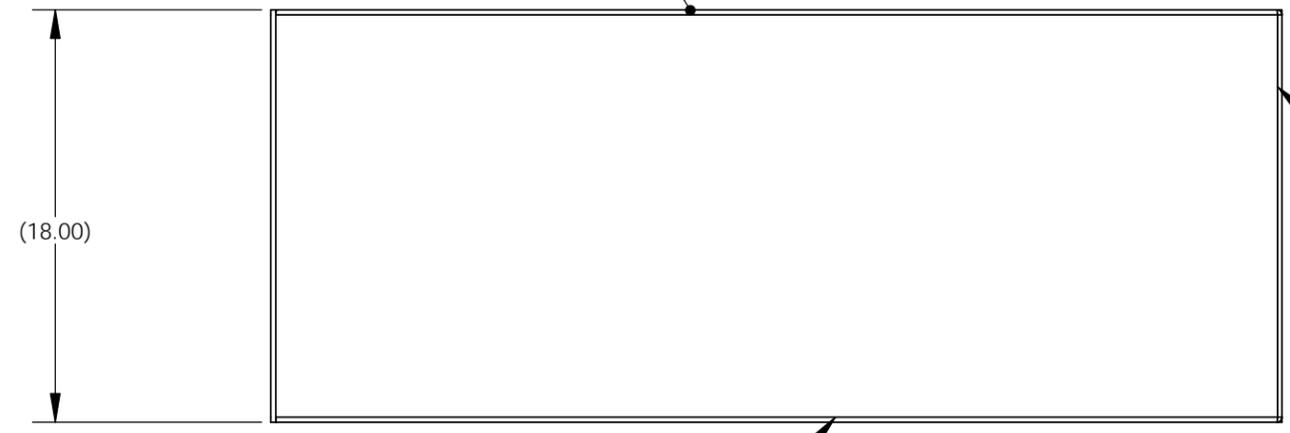
P8 SHOWN
ADOT BASE

B

B

A

A



NO WELDS OR PROTRUSIONS BELOW THIS SURFACE
NO SOLDADURAS O PROTRUSIONES POR ENCIMA DE ESTA SUPERFICIE

2 PL

ECONOLITE
CONTROL PRODUCTS, INC.
3360 E. La PALMA, ANAHEIM, CA 92806

**EXTENDER BASE
FOR 55" CABINET**

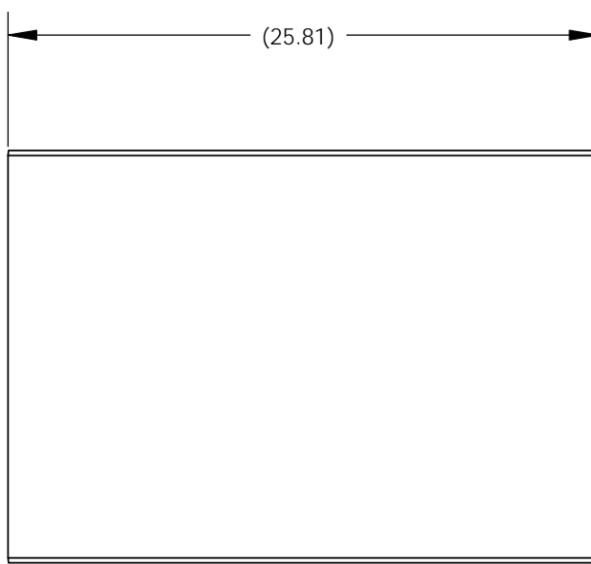
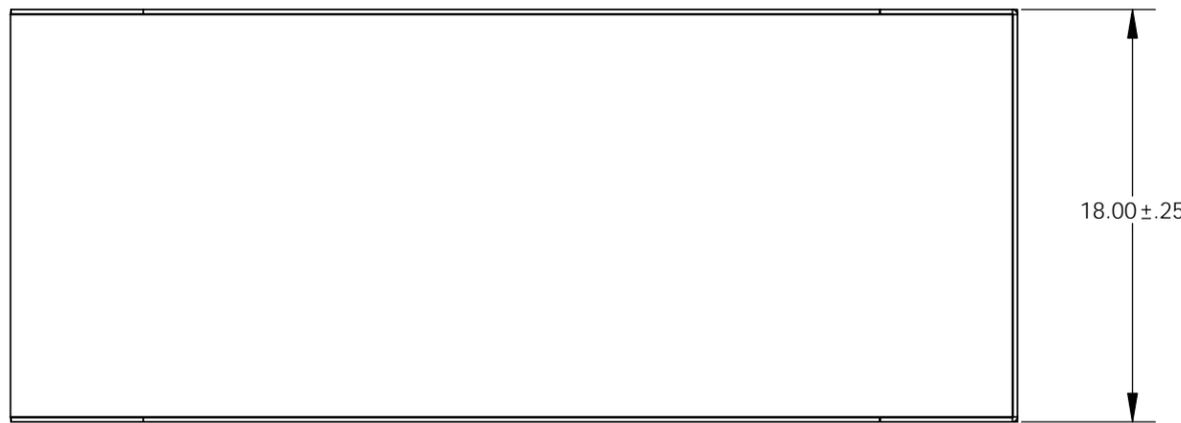
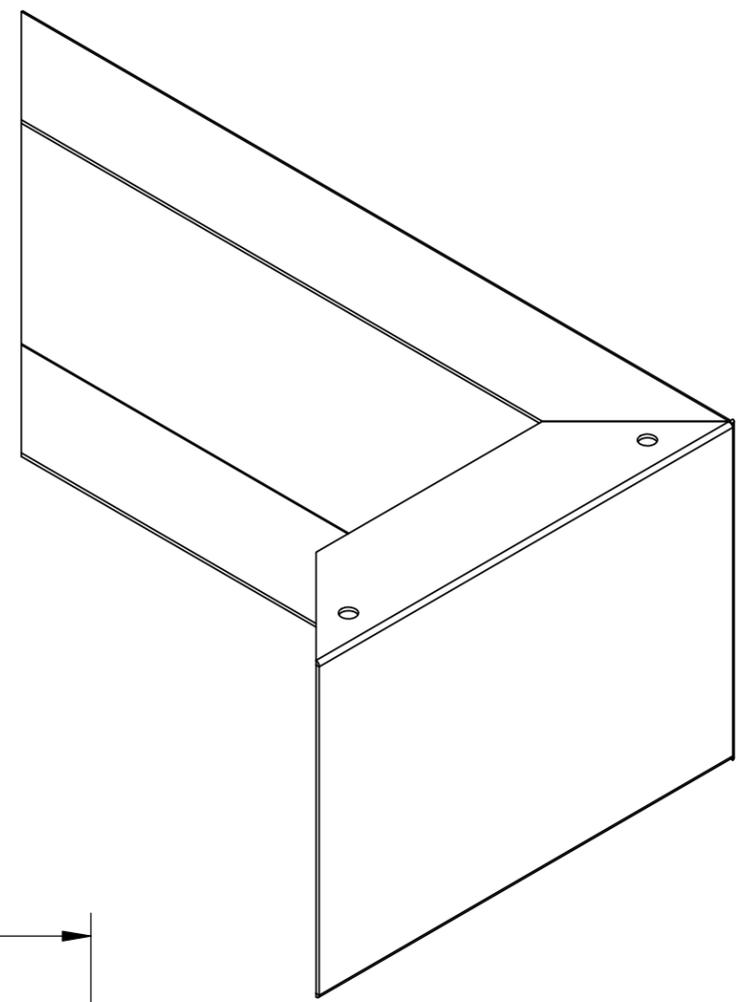
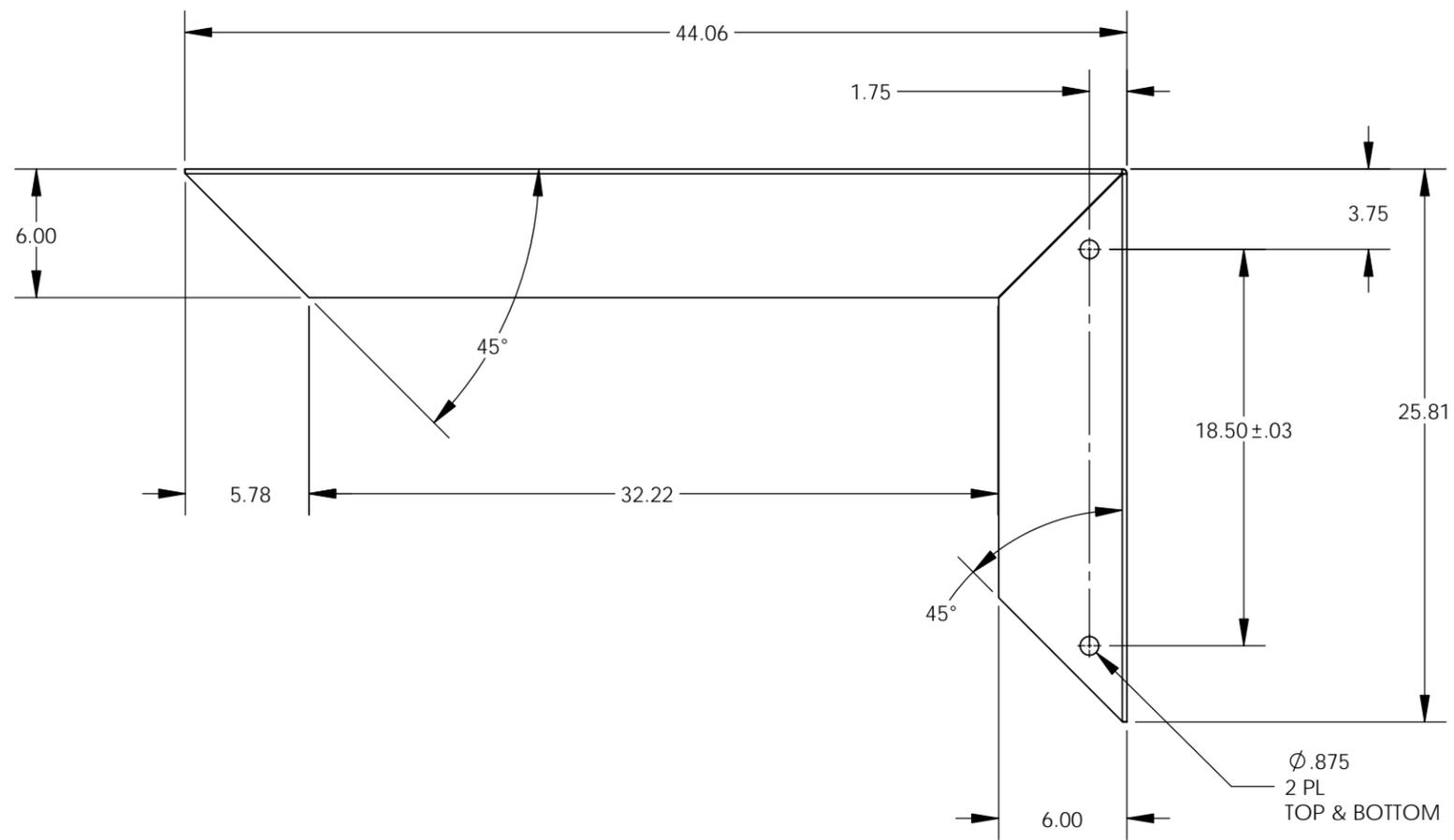
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SIZE B	CAGE CODE OFEW7	DRAWING NO. SK3051	REV. N
SCALE: 1:8	CAD FILE: SK3051.SLDDRW	SHEET 4 OF 5	

2

1



B

B

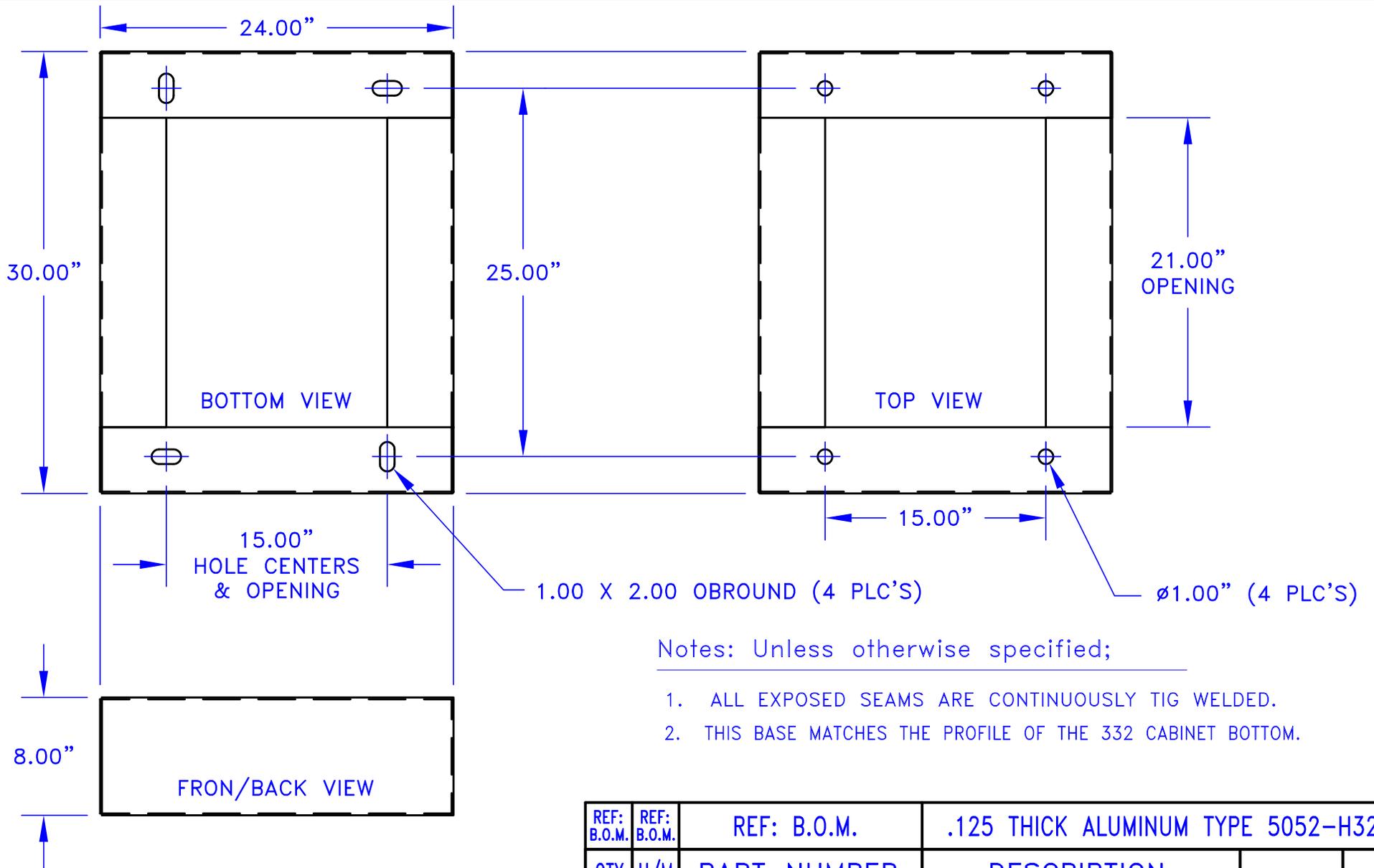
A

A

1/2 OF P8 SHOWN
ADOT BASE

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ECONOLITE CONTROL PRODUCTS, INC. 3360 E. La PALMA, ANAHEIM, CA 92806			
EXTENDER BASE FOR 55" CABINET			
DO NOT SCALE DRAWING			
SIZE B	CAGE CODE OFEW7	DRAWING NO. SK3051	REV. N
SCALE: 1:8	CAD FILE: SK3051.SLDDRW	SHEET 5 OF 5	



REF: B.O.M.	REF: B.O.M.	REF: B.O.M.	.125 THICK ALUMINUM TYPE 5052-H32	
QTY	U/M	PART NUMBER	DESCRIPTION	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES X.XX +/- 0.02 X.XXX +/- 0.010 HOLES + 0.005 - 0.002 ANGLES +/- 1 DEGREE SURFACES OF PART SHALL BE FREE OF NICKS, DENTS, SCRATCHES, BURRS, ECT.		DRAWN E. McLeod 5/18/07 CHECKED	Safetran Traffic Systems, Inc. 1485 Garden of the Gods Rd. Colorado Springs, Co. 80907	
		APPROVED	TITLE: 332 RAISER BASE 8" TALL	
		MATERIAL SEE ABOVE		
		FINISH NATURAL	SIZE A	DRAWING NO. 025215A332-00
REV	DESCRIPTION	DATE	REVISED BY	APPD.
		THIS DWG APPLIES TO PG. 8D, REV.		SCALE 1/10
		NEXT ASSEMBLY		SHT 1 OF 1



MMU-16LE

MMU-16LEip

MMU-16LE *SmartMonitor*[™]

MMU-16LEip *SmartMonitor*[™]

Description

The *MMU-16LEip SmartMonitor*[™], now has the added option of a 10/100Mbps Ethernet communications port to the new industry standard for both NEMA TS-2 and TS-1 users.

The use of Ethernet to communicate with the SmartMonitor makes remote diagnostics even easier to accomplish. By furnishing the monitor with an IP address, the unit can be integrated into a wide area network (WAN). Communications may originate from a remote Traffic Management Center, local Controller Unit, or a direct connection to a laptop PC network adaptor.

ECom[™] software provides a user with the capability to retrieve, display, store, and print realtime status and historical data, as well as multiple Signal Sequence logs providing a graphical view of the signal states for up to 30 seconds prior to a fault event.

Built-In, Set-Up and Diagnostic Wizard

The *MMU-16LEip SmartMonitor* includes a built-in set-up Wizard to quickly and accurately configure the monitor parameters simply by answering a short series of questions related to the intersection geometry and cabinet wiring. The built-in context sensitive HELP System and Diagnostic Wizard then automatically pinpoints faulty signals, thus providing technicians with an unprecedented amount of assistance and data feedback quickly with a push of the Help button. The *MMU-16LEip SmartMonitor* menu

driven operation presents signal voltages, data logs and vital cabinet information displayed directly on the *MMU-16LEip SmartMonitor* front panel displays.

The advanced capabilities of the *MMU-16LEip SmartMonitor* increase the operational level of safety of the intersection and enhances the diagnostic features available.

Features

- Meets NEMA TS2-2003 MMU Standard
- Full intersection LCD back-lighted signal display
- Built-in Set up Wizard automatically configures enhanced parameters
- Built-in Diagnostic Wizard automatically pinpoints faulty inputs
- Full event logging capabilities including five Signal Sequence logs
- Compatible with any TS2 Type 1 or Type 2 cabinet
- Downward compatible with TS1 CMU, including new Type 12 with SDLC mode
- The MMU-16LEip model replaces the standard EIA-232 port with a 10/100 Mbps Ethernet port for remote communications with a Traffic Management Center
- A key component for safer traffic control

MMU-16LE SmartMonitor **Enhanced Functions**

- The *MMU-16LE SmartMonitor* meets all specifications of the Nema Standard TS2-2003 while maintaining downward compatibility with existing Nema TS1-1989 Traffic Control Assemblies.
- Real-time SDLC communications with the Controller Unit exchanges field input status, Controller Unit output status, fault status, MMU programming, and time and date.
- Two high-contrast, large-area Liquid Crystal Displays (LCD) continuously show full RYG(W) intersection status. A separate graphic LCD provides a menu driven user interface to status, signal voltages, configuration, event logs, and the Help system.
- A time-stamped, nonvolatile event log records the complete intersection status, as well as AC Line events, configuration changes, monitor resets, temperature and true RMS voltages.
- Use the built-in Setup Wizard to configure the Nema Enhanced settings of the *SmartMonitor* by answering a short series of questions regarding intersection design and operation.
- The Diagnostic Wizard automatically pinpoints faulty signals and offers trouble-shooting guidance. The integrated Help System provides context sensitive operational assistance.
- The *MMU-16LE* can be configured to operate with the Port 1 SDLC function and Diagnostic Wizard enabled in a TS-1 twelve channel cabinet with no cabinet wiring changes.
- Enhanced settings of the *MMU-16LE* are stored in nonvolatile memory on the EDI Program Card. Moving the Program Card to another *MMU-16LE* automatically transfers all settings.
- The five Signal Sequence History logs stored in nonvolatile memory graphically display up to 30 seconds of signal status prior to each fault event.
- Innovative signal thresholding technique can be used to increase the level of monitoring protection when using LED-based signal heads.
- A DSP coprocessor converts AC input measurements to True RMS voltages, virtually eliminating false sensing due to changes in frequency, phase, or sine wave distortion.
- Access to the *MMU-16LE* data is provided by the industry standard EDI ECcom Windows-based software for status, event log retrieval, configuration, and data archival.
- The *SmartMonitor* supports MUTCD Flashing Yellow Arrow PPLT operation with two different modes for either TS-2 or TS-1 cabinet configurations.

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Complies With The New
NEMA MMU2 Standard and
MUTCD Requirements



SmartMonitor

MMU2-16LE SERIES

NEMA LCD MALFUNCTION MANAGEMENT UNIT

- MMU2-16LEip with Ethernet Port
- MMU2-16LE with EIA-232 Port

Whether you're a **NOVICE** or **EXPERT** Signal Technician, wouldn't it be great if you could:

- Use a built-in **SETUP WIZARD** to **quickly and accurately configure** the Signal Monitor to the exact requirements of the cabinet and intersection?
- Use a **MENU DRIVEN LCD** interface to **view** vital cabinet operational details such as field signal voltages, historical event logs, and monitor configuration data?
- Use a built-in **DIAGNOSTIC WIZARD** to **automatically diagnose** cabinet malfunctions and **pinpoint** faulty signals?

If your answer is **Yes**, the **MMU2-16LE SmartMonitor®** is for **YOU!**

NEW MMU2-16LE SmartMonitor® ENHANCED FEATURES

NEMA TS2-2003 (R2008) Standard Including Amendment #4:	The MMU2-16LE <i>SmartMonitor®</i> meets all specifications of the NEMA Standard TS2-2003 (R2008) for the MMU2 configuration while maintaining compatibility with NEMA TS1-1989 Assemblies.
NEMA Standard Flashing Yellow Arrow PPLT:	The MMU2-16LE <i>SmartMonitor®</i> supports MUTCD Flashing Yellow Arrow PPLT operation and meets / exceeds the NEMA Standard MMU2 requirements of TS-2 Amendment #4-2012, providing modes for both TS-2 or TS-1 cabinet configurations.
Standardized Communications:	Real-time SDLC communications with the Controller Unit exchanges field input status, Controller Unit output status, fault status, MMU programming, and time and date.
Full Intersection & Status Display:	Two high contrast, large area Liquid Crystal Displays (LCD) continuously show full RYG(W) intersection status. A separate graphic LCD provides a menu driven user interface to status, signal voltages, configuration, event logs, and the Help system.
Event Logging:	A time-stamped nonvolatile event log records the complete intersection status as well as AC Line events, configuration changes, monitor resets, temperature and true RMS voltages.
Setup Wizard:	Use the built-in Setup Wizard to configure the Nema Enhanced settings of the <i>SmartMonitor®</i> by answering a short series of questions regarding intersection design and operation.
Diagnostic Wizard and Help System	The Diagnostic Wizard <i>automatically pinpoints</i> faulty signals and offers trouble-shooting guidance. The integrated Help System provides context sensitive operational assistance.
TS-1 Type 12 with SDLC Mode:	The MMU2-16LE <i>SmartMonitor®</i> can be configured to operate with the Port 1 SDLC function and Diagnostic Wizard enabled in a TS-1 twelve channel cabinet with no cabinet wiring changes.
Program Card Memory:	Enhanced settings of the MMU2-16LE <i>SmartMonitor®</i> are stored in nonvolatile memory on the EDI Program Card. Moving the Program Card to another MMU2-16LE automatically transfers all settings.
Signal Sequence History Log:	The five Signal Sequence History logs stored in nonvolatile memory graphically display up to 30 seconds of signal status prior to each fault event.
LEDguard®:	This EDI innovative signal threshold technique can be used to increase the level of monitoring protection when using LED based signal heads.
EDI RMS-Engine:	A DSP coprocessor converts AC input measurements to True RMS voltages, virtually eliminating false sensing due to changes in frequency, phase, or sine wave distortion.
ECcom PC Software:	Access to the MMU2-16LE data is provided by the industry standard EDI ECcom Windows based software for status, event log retrieval, configuration, and data archival.

EBERLE DESIGN INC.

3510 East Atlanta Avenue
Phoenix, AZ 85040 USA
www.EDITraffic.com

Tel (480) 968-6407
Fax (602) 437-1996



2010ECL

Type 170 / 179 / 2070 Signal Monitor

INTRODUCING A NEW STANDARD OF SAFETY AND DIAGNOSTIC CAPABILITIES IN TYPE 170 / 2070 ENHANCED SIGNAL MONITORS

The EDI model 2010ECL Signal Monitor is designed to upgrade the capabilities of the basic 210 monitor used in Type 170 / 179 Output Files. The unit is fully compatible with the requirements of the 170, 179, and 2070 Controller Units. The 2010ECL Signal Monitor utilizes enhanced monitoring functions to increase cabinet fault coverage, providing additional assurance that cabinet equipment malfunctions will be detected and diagnosed properly.

Model Options:

2010ECL	16 channel capability with EIA-232 Port
2010ECLip	16 channel capability with Ethernet Port
2018ECL	18 channel capability with EIA-232 Port
2018ECLip	18 channel capability with Ethernet Port
2018KCL	18 channel capability with Datakey Programming



2010ECL FEATURES

Enhanced 210 Monitoring Functions:

The 2010ECL meets all requirements of the Caltrans "TSCE Specifications 1/89". Basic fault coverage includes Conflict, 24Vdc, and CU Watchdog monitoring. Red Monitoring senses the absence of signals on a channel. Dual Indication Monitoring detects simultaneous active signals on a channel. Clearance Monitoring ensures sequencing of signals with a proper minimum yellow clearance interval. AC Line Monitoring detects and responds to low AC Line voltages as well as interruptions with a minimum flash interval.

Event Logging:

The 2010ECL monitor maintains a 100 record nonvolatile event log which contains records of fault events showing the complete intersection status as well as AC Line events, configuration changes, monitor resets, cabinet temperature and true RMS voltages. A real time clock time stamps each log event with time and date.

RYG Full Intersection Display:

The Full Intersection display uses Red, Yellow, and Green LEDs to show active colors of all channel inputs simultaneously for real-time intersection status.

EDI RMS-Engine™:

A DSP coprocessor converts ac input measurements to True RMS voltages, virtually eliminating false sensing due to changes in frequency, phase, or sine wave distortion.

Recurrent Pulse Detection:

Recurrent Pulse Detection works in conjunction with the RMS-Engine to detect faults that are pulsing or intermittent in nature.

LEDguard™:

This EDI innovative signal thresholding technique is used to increase the level of monitoring protection when using LED based signal heads.

Communications to Laptop PC or Remote Traffic Management Center:

An EIA-232 or optional Ethernet port provides access by a local PC or remote TMC running ECom™ Windows based software for status, event log review, and archival.

Signal Sequence History Display:

Five Signal Sequence History logs stored in nonvolatile memory each graphically display 30 seconds of signal status prior to each fault event. The resulting display eases diagnosing of intermittent and transient faults by viewing the exact signal states that the monitor sensed.

Configuration Monitor:

Detects potentially unsafe programming changes and Red Interface cable problems.

Flashing Yellow Arrow PPLT:

Two operational modes are built-in for support of the MUTCD Flashing Yellow Arrow PPLT operation depending on the number of load switches in the cabinet.

ECom, LEDguard, and RMS-Engine are trademarks of Eberle Design Inc.

EBERLE DESIGN INC.

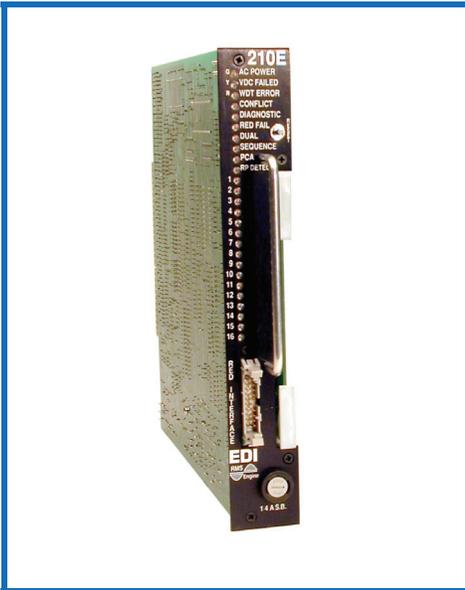
3510 East Atlanta Avenue
Phoenix, AZ 85040 USA
www.EDItraffic.com

Tel (480) 968-6407
Fax (602) 437-1996



210E Series

Type 170 / 179 Signal Monitor



The EDI 210E Series Signal Monitor is designed to upgrade the capabilities of the basic 210 monitor used in Type 170 / 179 Output Files. The unit is fully compatible with the requirements of the 170 and 179 Controller Units. The 210E Signal Monitor utilizes enhanced monitoring functions to increase cabinet fault coverage, providing additional assurance that cabinet equipment malfunctions will be detected and diagnosed properly.

Model Options:

210E	16 channel capability for 170 and 179 compatibility
2010	16 channel capability for 170, 179, and 2070 compatibility

210E FEATURES

Enhanced 210 Monitoring Functions:	The 210E meets or exceeds the requirements of the Caltrans Traffic Signal Control Equipment Specifications of January 1989. Basic fault coverage includes Conflict, 24Vdc, CU Watchdog, and AC Line monitoring.
Red Monitoring:	Red Fail Monitoring senses the absence of signal on all three inputs of a channel and requires the output file to be wired for Red signals. Two Special Function inputs disable Red Fail Monitoring to accommodate RR preempt or TOD flash sequences.
Dual Indication Monitoring:	GYR Dual Indication Monitoring detects simultaneous active signals on a channel. GY Dual Indication monitoring provides Dual Indication sensing capabilities for 5 section signal heads.
Sequence Monitoring:	Sequence Monitoring ensures sequencing of signals with a proper minimum yellow clearance interval (Short Yellow or Absence of Yellow).
EDI RMS-Engine™:	A DSP coprocessor converts ac input measurements to True RMS voltages, virtually eliminating false sensing due to changes in frequency, phase, or sine wave distortion.
Recurrent Pulse Detection:	Recurrent Pulse Detection works in conjunction with the RMS-Engine to detect faults that are pulsing or intermittent in nature.
LEDguard™:	This EDI innovative signal thresholding technique is used to increase the level of monitoring protection when using LED based signal heads.
Diagnostic Displays:	Two Diagnostic display modes show active colors of channels for both real-time intersection status and latched fault status of the current and two previous fault events.
AC Line Monitoring:	AC Line Monitoring detects and responds to low AC Line voltages as well as interruptions.
Configuration Monitor:	Detects potentially unsafe programming changes and Red Interface cable problems.
Flashing Yellow Arrow PPLT:	Two operational modes are built-in for support of the MUTCD Flashing Yellow Arrow PPLT operation depending on the number of load switches in the cabinet.
Option Programming:	Programmable options include: <ul style="list-style-type: none">✓ Watchdog Fault Timing✓ Configuration Change Fault Enable✓ Watchdog Latch Enable✓ AC Line Brownout/Restore Levels✓ GY Dual Indication Enable✓ Red Fail Fault Time✓ Dual Indication Fault Time✓ Minimum Flash Enable✓ Special Function Input Polarity✓ Red Interface Cable Check Enable

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Autoscope RackVision 1 and 2



Quality sources of video signal include the Autoscope Image Sensor or existing CCTV cameras that meet minimum performance standards.

About RVP1 & RVP2

The need for a simple, reliable and cost-effective dynamic video-based detection solution at vulnerable intersections and along congested roadways is becoming more important in maintaining mobility and safety. As a result, agencies are leveraging the benefits of the video processing and broadband communications capabilities of video detection, including Autoscope – a critical first step in implementing an Intelligent Transportation System (ITS) program.

The Autoscope RackVision Pro Series solutions, including RVP1 and 2 are Machine Vision Processors (MVP) designed to meet intersection detection objectives of vehicle detection and signal actuation in a typical traffic cabinet. This cost-effective detection solution utilizes the same algorithms that have established Autoscope video detection as the global leader for wide-area video vehicle detection.

At A Glance

- Provides basic video vehicle detection for intersection stop-line and advance extension applications
- Bicycle detection
- Installs in a standard detector rack or self-contained shelf-mount unit
- Software installation by USB flash drive
- Comprehensive traffic data collection
- Self-test on power-up

Benefits

- No laptop required
- Reliable performance
- Interchangeability with existing solutions
- Compatibility with standard loop detector racks
- Low power consumption
- Minimal maintenance
- Cost-effective solution for traffic detection
- Easy to install and configure
- Field-proven *Autoscope* accuracy and reliability
- Built on proven *Autoscope Terra*™ Technology
- Connects to existing *Autoscope AIS* or other CCTV cameras
- Compatible with color or monochrome cameras
- Native language graphical user interface support

Applications

- Fully actuated intersection detection
- Semi-actuated intersection detection
- Temporary construction and work zone safety
- Traffic studies
- Bicycle detection

Set-Up & Operation

The *RVP1* and *RVP2* detector cards are easy to install/configure and adaptable to meet an agency's detection requirements. *Autoscope* Mouse & Monitor functionality quickly sets up intersection detection applications without the use of a laptop.

Simple Mouse & Monitor setup enables stop lines and advance extension detection zones to be drawn as needed. Users can also easily assign detector outputs to interface with NEMA TS1/TS2, Type 170/179 and 2070 ATC controllers.

With mouse and keyboard operations, users can backup work, troubleshoot with the operations log, and modify the detection layout with the configuration Wizard™ or other tools in the *Autoscope* Toolbox. The optional *Autoscope Access Point (TAP)* or *RackVision Terra MVP* can also assign additional detector outputs.

Basic Specifications

- Temperature
 - -29°F to +165°F/-34°C to +74°C
- Power
 - 12 or 24-VDC 11 Watts maximum
- Dimensions
 - 4.5 in. (H) x 2.3 in. (W) x 7 in. (D) (11.4cm x 5.7 cm x 17.8 cm) plus handle
 - 0.5 lb (0.2 kg)



Autoscope AIS-IV



The Autoscope Image Sensor (AIS) Series is a lightweight color zoom camera system, designed for the rigors and performance requirements of vehicle detection at virtually all traffic intersection and highway environments.

About Autoscope

As more Intelligent Transportation System (ITS) programs come online, transportation agencies and metropolitan planning organizations (MPO) are realizing the enhanced traffic management capabilities that are accessible through ITS. A solution that offers one of the largest gains in capability and lower cost of ownership to any ITS program is a video detection system. A video system provides access to new levels of strategic traffic information, supporting comprehensive reporting for funding opportunities, regular signal timing updates, traveler and shared traffic information, etc. Optimized as a video source for the *Autoscope* standalone Machine Vision Processor (MVP) product suite, the AIS Suite of cameras produce consistently high quality video in all weather, lighting, and traffic conditions common in today's demanding traffic management and ITS environments.

At A Glance

- Designed for most wide-area machine vision vehicle detection applications
- Low maintenance
- Low power consumption
- Rugged, environmentally sealed enclosure
- Auto-gain circuitry for improved detection in varying light conditions
- Hydrophilic faceplate coating
- No streaking or blooming from bright light sources (headlights)

Description

The image sensor has high sensitivity for accurate vehicle detection at night and during other low light conditions. The solid-state design provides maximum hardware reliability for 24/7 operations. The color image sensor minimizes streaking and blooming from bright light sources, such as headlights and wet pavement that could adversely affect detection performance.

A variety of available mounting brackets enable easy installation of the AIS camera systems on existing poles, mast arms, or other structures. The unique bracket design speeds installation by minimizing adjustment hardware and eliminating steps in the set-up process.

Faceplate Heater

New technology has greatly reduced the power consumption of the AIS. By applying heat directly to the faceplate, the AIS can keep the faceplate clear in extreme conditions with less power.

Zoom Control

“Control-over-Coax” technology is used to adjust the zoom lens, eliminate adapter cables, or extra control wires in the pole, simplifying installation. Zoom and camera controls travel to the AIS along the coax cable. Adjustments are made via a hand-held zoom controller or a coax modem that plugs into the coax cable. Adjustments are made via a hand-held zoom controller or a coax modem that plugs into the coax cable, allowing the user to adjust the lens via a laptop computer.

Color or Black & White

The AIS-IV can be ordered with output video pre-set to color or black & white. For RackVision™ and 2020™ MVP products, order with color video output. For use with Autoscope 2004 MVP, black & white video must be used. The video output can be switched by the user via the zoom control setup software.

EasyLock Connection Option

This connector is an excellent choice for easy field installation. It eliminates “pig tail” camera cables and splicing by allowing the installer to pull power and coax cable directly to the camera. Connectors are easily installed for reliable, waterproof connections.

Hydrophilic Faceplate Coating

This new faceplate coating fills the porous surface of the face plate, preventing airborne contaminants and water from striking and sticking to the surface of the lens. The coating maintains image quality and reduces the need for maintenance.

Basic Specifications

- Temperature
 - -40°F to +140°F (-40°C to +60°C)
- Power
 - Input power options: 85-265VAC-40-440Hz/24VAC, 47-440Hz/12-14VDC
 - 10W max
 - 5W nominal
- Dimensions
 - Housing Enclosure: 3.5 in. D x 10.3 in. L (8.89 cm D x 26.2 cm L)
 - Weather sunshield: 14.5 in. L (36.8 cm L)



Intuicom® Nitro58™

802.11a 5GHz BROADBAND SOLUTIONS



OVERVIEW

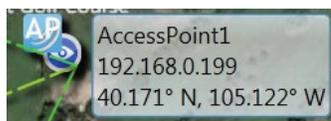
Intuicom continues its best-in-class tradition of wireless solutions with the Nitro58™ line of broadband products. At up to 108 Mbps (per radio module), this advanced wireless 802.11a solution provides industry-leading 600mW transmit power, extended range, and the high throughput demanded by today's bandwidth intensive applications. The Intuicom Nitro58™ line also includes an industry first: automatic GPS-based geo-location of units through new BroadbandPro™ 2.0 software, available only from Intuicom. Other standard-setting features include an external status panel which combines Received Signal Strength Indicators (RSSI), power indicator, and a power-on reset button.



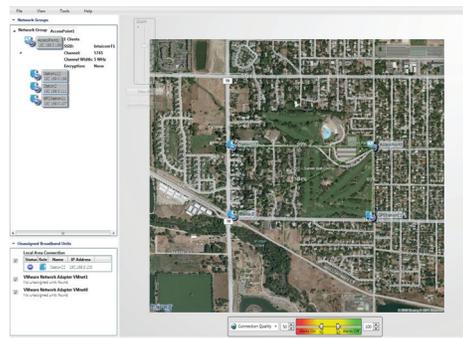
External RSSI LEDs simplify antenna alignment. Reset button saves valuable time.

NEW BROADBANDPRO™ 2.0 SOFTWARE

The all-new version of Intuicom's Broadband Pro software includes advanced mapping capabilities and industry firsts such as automatic GPS-based location and display, self-organizing network discovery, and more. All while maintaining the unsurpassed ease-of-use of previous versions.



GPS automatically maps network –no manual entry and always up-to-date



New Broadband Pro™ 2.0 includes advanced mapping and self-organizing network discovery.

KEY FEATURES

- 108/216/432 Mbps (max)
- 20+ mile range (LOS)
- 10/100/1000Mbps - Ethernet
- IEEE 802.3af/at PoE compliant
- Embedded GPS
- RSSI Indicators
- Reset Button
- IEEE 802.11a and Proprietary Wireless Protocol
- Orthogonal Frequency Division Multiplexing (OFDM) technology
- Single Unit Operation™ – any radio may be configured as an Access Point, Repeater, Remote, or Mesh Node
- Hardware Options: Integrated Panel Antenna, Stand Alone Enclosure and Access Point Cluster (Quad Radio)
- New, industry-leading software for simple set-up and operation
- Industrial Grade – IP67 and NEMA-exceeding environment specifications

APPLICATIONS

- Traffic and ITS
- Security systems
- Video/surveillance monitoring
- High speed backbones
- T1/E1 replacement
- Mobile data and remote access
- Remote sensor data collection

To learn more about Intuicom Broadband Solutions and how to make your applications more robust and easy to manage, contact broadband@intuicom.com or call 303-449-4330.

Intuicom® Nitro58™

802.11n 5GHz BROADBAND SOLUTIONS



OVERVIEW

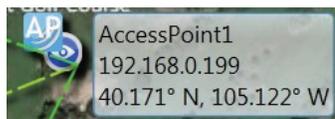
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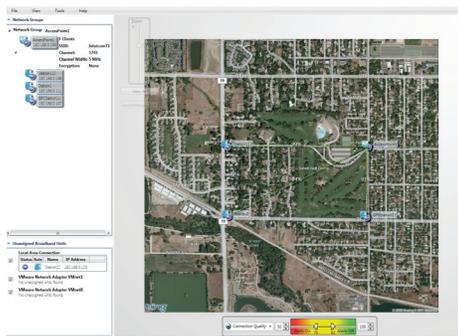
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GPS automatically maps network —no manual entry and always up-to-date



New Broadband Pro™ 2.0 includes advanced mapping and self-organizing network discovery.

KEY FEATURES

- Up to 300 Mbps
- Embedded GPS for easy mapping and positioning
- MIMO 2x2:2 support
- 20+ mile range (LOS)
- 10/100/1000Mbps - Ethernet
- IEEE 802.3af/at PoE compliant
- RSSI Indicators
- IEEE 802.11n and Proprietary Wireless Protocol
- Orthogonal Frequency Division Multiplexing (OFDM) technology
- Point-to-Point and Point-Multipoint functionality
- New, industry-leading software for simple set-up and operation
- Reset Button
- Industrial Grade – IP67 and NEMA-exceeding environment specifications

APPLICATIONS

- Traffic and ITS
- Security systems
- Video/surveillance monitoring
- Backhaul connectivity to legacy networks
- High speed backbones / backhaul
- T1/E1 replacement
- Mobile data and remote access
- Remote sensor data collection

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Intuicom[®] Nitro58[™]

802.11n 5GHz BROADBAND SOLUTIONS

GENERAL SPECIFICATIONS

	Integrated	Stand-Alone
PoE Standard	IEEE 802.3af/at	IEEE 802.3af/at
Ethernet	10/100/1000Base-TX	10/100/1000Base-TX
Geolocation	Embedded GPS	Embedded GPS
Size	11"x9.7"x4.7"	12.5"x9.3"x5.8"
Weight	4.0 lbs.	7.9 lbs.
LED Indicators/Control	RSSI, Status, Power, Reset Button	RSSI, Status, Power, Reset Button
Antenna Included	Dual Polarized Panel	n/a
Antenna Connector	n/a	(x2) Type-N(F)
Environmental	-45 to +85 °C (IP67)	-45 to +85 °C (IP67)

WIRELESS INTERFACE

Wireless Protocols	IEEE 802.11a/n and Proprietary
Frequency Range	5.150 - 5.825GHz
Average Transmit Power	27dBm +/-2dBm
Data Rate	300Mbps (MCS 0 - 15)
Receive Sensitivity	-97 to -74dBm
Channel Widths	20, 40MHz
Modulations	OFDM, BPSK, QPSK, 16QAM, 64QAM
MIMO	2x2:2
Topology	Point-to-Point, Point-to-Multipoint

SECURITY

802.11i WPA-PSK
802.11i WPA2-PSK
802.11i WPA-EAP
802.11i WPA2-EAP
802.11i TKIP
802.11i AES-CCM
802.11i 802.1X
802.11i -RSN
Radius Authentication
MAC Access Control List
128/256 Encryption

WIRELESS REGULATORY APPROVALS

FCC Part 15.247
Industry Canada RSS-210
RoHS Compliant

BROADBAND PRO 2.0 SOFTWARE

Advanced Mapping with Network Alert Reporting
GPS Geolocation of Radios (an industry first)
Self-Organizing Network Tree
Drag and Drop Radio Configuration Tool
IP Discovery Tool and Conflict Resolution
Color Coded Icons display Radio Type, Network Topology and Health Status
Local or Remote Configuration
Network-Wide Diagnostics
Bandwidth Test Tool
Spectrum Analysis/AP Scan Tool
Real-Time RSSI
Client Connection Quality
Audio Aiming Tool
Advanced User Control (Expert Mode)

IEEE NETWORKING FEATURES

802.11e	WMM and QOS
802.11h	DFS and TPC
802.1d	Ethernet Bridging
802.1p	Traffic Prioritization
802.1q	VLAN
802.1s	Spanning Tree
802.1w	Rapid Spanning Tree
802.3-1998	Ethernet
802.3ab	Gigabit Ethernet
802.3ac	Extended Frame Size for 802.1q & 802.1p Support
802.3ad	Link Aggregation/Port Bonding/Port Trunking
802.3i	10 Mbps Ethernet
802.3u	100 Mbps Ethernet and Auto-Negotiation
802.3x	Full Duplex and Flow Control

POE GIGABIT INJECTOR

(x1) 10/100/1000Base-T(X) PoE port
IEEE 802.3at/af PoE
Built-in Surge Protection
IEEE 802.3u for 100Base-TX
IEEE 802.3ab for 1000Base-T
Operating Temperature of -40 to +80C
Dimension of 125 x 75 x 38mm
LED Indicators (Power, Fault, Status)
Rigid IP-30 housing design

ADDITIONAL NETWORKING FEATURES

Dynamic Routing (OSPFv3, BGP+, RIP)
FTP, SSH, Telnet and Terminal capability
Sniffer and Fetch Tools
Firewall Management (address lists)
SNMP v1,2,3 Syslog
IPv6 support
DNS namer servers
DHCP Server / Client / Relay

Note: Specifications subject to change without notice. PoE Gigabit Injector sold separate.
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INTUICOM RADIOS REQUIRE PROFESSIONAL INSTALLATION

INTUICOM, INC.

4900 NAUTILUS COURT STE. 100 • BOULDER, CO 80301 • USA

T: 303-449-4330 • F: 303-449-4346

Email: broadband@intuicom.com • www.intuicom.com



802.11a 5GHz BROADBAND SOLUTIONS

GENERAL SPECIFICATIONS

	Integrated	Stand-Alone	Access Point Cluster
PoE Standard	IEEE 802.3af/at	IEEE 802.3af/at	IEEE 802.3at-HP (60watts)
RF Data Rate (maximum)	108Mbps	108/216Mbps	432Mbps
Geolocation	Embedded GPS	Embedded GPS	Embedded GPS
Size	8.2"x5.9"x2.3"	11.0"x9.7"x4.7"	12.5"x9.3"x5.8"
Ethernet Interface	10/100/1000Base-T	10/100/1000Base-T	10/100/1000Base-T
LED Indicators/Push Button	RSSI, Status, Power, Reset Button	RSSI, Status, Power, Reset Button	Power, Reset Button
Number of Radio Modules	1 RF module	1-2 RF modules	4 RF modules
Antenna Included	Panel	n/a	(4) Sector or (4) Panel
Antenna Connector	n/a	(1-2) Type-N(F)	(4) Type-N(F)
Environmental	-45 to +85 °C (IP67)	-45 to +85 °C (IP67)	-45 to +85 °C (IP67)

WIRELESS INTERFACE

Wireless Protocols	IEEE 802.11a and Proprietary
Frequency Range	5.150 - 5.825GHz
Peak Transmit Power	28dBm
Data Rate	108/216/432Mbps
Receive Sensitivity	-97 to -74dBm
Channel Widths	5, 10, 20, 40MHz
Modulations	OFDM, BPSK, QPSK, 16QAM, 64QAM
Topology	Point-to-Point, Point-to-Multipoint, Mesh

SECURITY

802.11i WPA-PSK
 802.11i WPA2-PSK
 802.11i WPA-EAP
 802.11i WPA2-EAP
 802.11i TKIP
 802.11i AES-CCM
 802.11i 802.1X
 802.11i -RSN
 Radius Authentication
 MAC Access Control List
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Bus Interface Unit (BIU)

Description

The *BIU-64* is a rack module which interfaces 24V logic I/O signals to the Synchronous Data Link Control (SDLC) serial bus of TS2 Type-1 cabinets. It is required in all TS2 Type-1 cabinets and in TS2 Type-2 cabinets whether controller I/O interface is through the SDLC bus, not via TS1 MS-A, B, and C connectors.

Physically, the *BIU-64* consists of a circuit board and a front panel. A male 64-pin DIN 41612 type-B series connector provides the connection to the backplane of the rack. A female 15-pin metal shell D subminiature connector with latching blocks provides the connection to the SDLC cable. The front panel provides separate indicator lights for Power, Transmit, and Valid Data. It also provides a handle for easy removal of the unit from the rack. A separate TS2 cabinet power supply provides the required 24 VDC power plus a 60 Hz line-timing reference.

SDLC Serial Bus

In a TS2 Type-1 cabinet, the full-duplex SDLC serial data bus provides high speed, bidirectional data exchange with the controller. Malfunction Management Unit (MMU), Detector Rack(s), and Terminals and Facilities. The bus operates at 153,600 bps and uses four sets of RS-485 balanced lines: Rx Data, Rx Clock, Tx Data, and Tx Clock. In a TS2 Type-2 cabinet, the A, B, and C connectors of TS1 are also available and allow point-to-point wiring to the controller without a BIU.

The SDLC bus overcomes the pin limitations of TS1, simplifies cabinet wiring, enhances reliability, allows virtually unlimited cabinet expansion, and provides a standardized interface to currently unspecified future devices. It allows the controller to serve as a backup for the MMU and to receive diagnostic data from detectors.

Signal I/O

The TS2 Standard specifies 24V logic pin assignments for the rear connector of the BIU as follows: eight inputs, four opto-isolated inputs, 24 re-mappable input/outputs, 15 outputs, and four address-select inputs.

The isolated inputs are intended to be used with pedestrian detectors and remote interconnect signals.

I/O Mapping

The four address-select inputs provide 16 BIU addresses, which are normally set by jumpers on the backplane. TS2 specifies the I/O mapping for eight of the addresses. Once one of the eight addresses has been set, all I/O pins of the backplane and the BIU are fully defined, thus allowing standardized cabinet wiring and simple menu-driven programming of the controller. Operation of the SDLC bus is completely transparent to the user. BIUs 1-4 are designated for Terminals and Facilities, BIUs 9-12 for Detector Racks.

TS2 Compatibility

The BIU complies with Section 8 and with all other applicable sections of the NEMA TS2-2002 Standard. It performs its specified functions under the environmental conditions set forth in Section 2 of the Standard, which includes operation from -30°F to +165°F (-34°C to +74°C). The *BIU-64* is usable in a TS2 cabinet by any manufacturer, provided that the cabinet fully meets the TS2 Standard.

Functions

- Interfaces detectors, load switches, and 24V signals to TS2 Port-1 SDLC bus
- Used in TS2 Type-2 for detector rack interface

Features

- Exceeds BIU requirements of NEMA TS2-2002
- Interfaces detectors, load switches, and 24V signals to TS2 Port-1 SDLC bus
- Used in all TS2 Type-1 cabinets for Terminal and Facilities plus Detector Racks
- Used in TS2 Type-2 for Detector Racks
- Fully hot-swappable
- Separate Power, Transmit, and Valid Data LED indicators display DC power and port status
- High current output drives
- SDLC bus surge protection
- Input/Output surge protection

Hardware

The *BIU* measures 2.34 in. W x 4.50 in. H x 6.60 in. D. Low-profile components are used in order to facilitate an optional half-width front plate unit which measures 1.17 in. x 4.5 in. x 6.60 in. The *BIU* will slide freely into two rack card-guides having a nominal slot width of 0.075 in. and a maximum slot width of 0.125 in.

An aluminum handle is provided on the front panel to allow easy removal of the *BIU* from the rack. Nominal outer dimensions of the handle shall be 1 in. x 2½ in.

The card rack connector on back of the *BIU* is a male 64-pin DIN 41612 type-B series. The connector is centered at the edge of the circuit board and oriented with Pin 1 located on top. The circuit board edges align with the connector per DIN 41612.

The Port-1 SDLC bus connector on the front panel of the *BIU* is a 15-pin metal shell subminiature type with female gold plated contacts. The connector is equipped with latching blocks and mates with a male 15-pin D-type cable connector that is equipped with spring latches (Amp part number 745012-1 or equivalent).

The front panel made of 0.090 in. sheet aluminum and is finished with a durable protective coating. Two indicator lamps are provided on the front panel, as specified by the TS2 Standard, for Power and Transmit. In addition, the front panel provides a Valid Data indicator, which lights whenever a Valid Data frame is received. The Power light flashes during absence of Line Frequency Reference (LFR) from

the cabinet power supply. The *BIU* operates with internally generated 60 Hz reference in the absence of the LFR signal.

The circuit board is made of NEMA FR-4 glass epoxy or equivalent. Exposed circuit traces are plated with solder.

Both sides of the board are coated with a clear, moisture-proof, and fungus-proof sealant. The designation of all components and the polarity of all capacitors are clearly marked adjacent to the component.

Pin assignments

Port-1 (SDLC bus) pin assignments shall be as specified in Section 8.6.2.1 of the TS2 Standard:

Pin	Function
1	Rx Data
2	Logic Ground
3	Rx Clock +
4	Logic Ground
5	Tx Data
6	Logic Ground
7	Tx Clock +
8	Logic Ground
9	Rx Data -
10	Not Used
11	Rx Clock -
12	Earth Ground
13	Tx Data -
14	Reserved
15	Tx Clock -

Card rack connector pin assignments shall be specified in the TS2 Standard:

Side A	Pin	Side B
+24 VDC	1	+24 VDC
Output 1	2	Output 2
Output 3	3	Output 4

Side A	Pin	Side B
Output 5	4	Output 6
Output 7	5	Output 8
Output 9	6	Output 10
Output 11	7	Output 12
Output 13	8	Output 14
Output 15	9	Input/ Output 1
Input/ Output 2	10	Input/ Output 3
Input/ Output 4	11	Input/ Output 5
Input/ Output 6	12	Input/ Output 7
Input/ Output 8	13	Input/ Output 9
Input/ Output 10	14	Input/ Output 11
Input/ Output 12	15	Input/ Output 13
Input/ Output 14	16	Input/ Output 15
Input/ Output 16	17	Input/ Output 17
Input/ Output 18	18	Input/ Output 19
Input/ Output 20	19	Input/ Output 21
Input/ Output 22	20	Input/ Output 22
Input/ Output 24	21	Input 1
Input 2	22	Input 3
Input 4	23	Input 5
Input 6	24	Input 6
Input 8	25	Opto-Input 1
Opto-Input 2	26	Opto-Input 3
Opto-Input 4	27	Opto-Common
Address Select 1	28	Address Select 2
Address Select 3	29	Address Select 4
Data Tx	30	Data Rx
Ground (earth)	31	Line Freq.
Ground (logic)	32	Ground (logic)

Isolated inputs

The *BIU* provides four optically isolated inputs for use with push-buttons and remote interconnect. These inputs provide minimum electrical isolation of 10MΩ, minimum electrical breakdown of 1000 VAC, and a nominal input impedance of 5KΩ.

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PS-250

Heavy Duty Cabinet Power Supply

The ideal power source when using high current devices such as video detection cards.

The PS-250 Cabinet Power Supply is a shelf mounted unit which supplies regulated DC power, unregulated AC power, and a line frequency reference for the Detector Rack, BIUs, load switches, and other auxiliary equipment. The PS-250 meets and/or exceeds all requirements of the NEMA TS2-2003 Standard.

All TS-2 Type 1 cabinet assemblies require the use of this unit as well as any TS-2 Type 2 cabinet assemblies that utilize Bus Interface Units (BIU).

Each EDI PS-250 Cabinet Power Supply is put through a rigorous three part Total Quality Assurance program and tested under the extreme environmental conditions experienced on the street. It is this commitment to quality and performance that EDI products are known for, providing years of trouble free operation.

PS-250 OPERATIONAL FEATURES

Basic Functions: The PS-250 provides four outputs rated over the full -30°F to 165°F (-34°C to +74°C) Nema operating temperature range:

- +12 VDC rated at 5 Amps
- +24 VDC rated at 2 Amps
- 12 VAC rated at 0.25 Amps
- 60 Hz Line Frequency Reference rated at 50 mAmps
- Input Voltage Operating Range is 89 Vac to 135 Vac at 60 Hz

Display Indicators: A separate LED indicator is provided to display output status and fuse integrity for the three supply outputs. The Line Frequency Reference LED indicator pulses to show 60 Hz activity.

Input / Output Pins:

Pin	Function
A	AC Neutral
B	Line Frequency Reference Output
C	AC Line Input
D	+12 VDC Output
E	+24 VDC Output
F	Reserved
G	Logic Ground
H	Earth Ground
I	12 VAC Output
J	Reserved

Test Points: Individual test jacks are provided for the +12 VDC output, +24 VDC output, and Logic Ground reference.

Output Protection: The +12 VDC, +24VDC, and 12 VAC outputs are fused for over-current protection. Each output is protected against voltage transients by a 1500 Watt suppressor.

Dimensions: 8.2 inches High x 4 inches Wide x 8 inches Deep

EBERLE DESIGN INC.

3510 East Atlanta Avenue
Phoenix, AZ 85040 USA
www.EDITraffic.com

Tel (480) 968-6407
Fax (602) 437-1996





PS-200 TS2 Cabinet Power Supply

Description

The PS-200 Cabinet Power Supply is a shelfmounted unit, which supplies regulated DC power, unregulated AC power, and a line frequency reference for the Detector Rack, BIUs, load switches, and other auxiliary equipment. The PS-200 meets all requirements of the NEMA TS2-2003 Standard.

All TS-2 Type 1 cabinet assemblies require the use of this unit, as well as any TS-2 Type 2 cabinet assemblies that utilize Bus Interface Units (BIU).

Each PS-200 Cabinet Power Supply is put through a rigorous quality program and tested under the extreme environmental conditions experienced on the street.

Display Indicators

A separate LED indicator is provided to display output status and fuse integrity for the three supply outputs. The Line Frequency Reference LED indicator pulses to show 60 Hz activity.

Test Points

Individual test jacks are provided for the +12 VDC output, +24 VDC output, and Logic Ground reference.

Output Protection

The +12 VDC, +24VDC, and 12 VAC outputs are fused for over-current protection. Each output is protected against voltage transients by a 1500 Watt suppressor.

Dimensions

The PS-200 measures 6 inches high x 5.8 in. wide x 8.3 in. deep.

Input / Output Pins

Pin	Function
A	AC Neutral
B	Line Frequency Reference Output
C	AC Line Input
D	+12 VDC Output
E	+24 VDC Output
F	Reserved
G	Logic Ground
H	Earth Ground
I	12 VAC Output
J	Reserved

Features

The PS-200 provides four outputs rated over the full -30°F to 165°F (-34°C to +74°C) NEMA operating temperature range:

- +12 VDC rated at 2 Amps
- +24 VDC rated at 2 Amps
- 12 VAC rated at 0.25 Amps
- 60 Hz Line Frequency Reference rated at 50 mAmps

Input Voltage Operating Range is 89 VAC to 135 VAC at 60 Hz

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38411E0607-8

 **ECONOLITE**[®]

An Econolite Group Company
www.econolite.com





Serial GPS for ASC/3 controller or ASC/2M master

Description

The Econolite Global Positioning Service (GPS) antenna can provide an update to the date and time of the controller or master based on receipt of the GPS information from 12 satellites

We provide two different assemblies for serial connection of GPS to ASC/3, *Cobalt™* controllers and ASC/2M masters. Both include a fused connection to the cabinet 24VDC, a cable to connect to the Garmin antenna, a mounting plate and gaskets for the antenna and a cable to connect to either a 9 pin or 25 pin serial connector.

Part Number Description

171-1369-501 GPS 16X with DB9 Cable Assembly

171-1369-502 GPS 16X with DB25 Cable Assembly

Temperature

• -34.6°F to +165°F (-37°C to +74°C)

For clarification, our direct serial interface provides the physical cable connection between the GPS antenna and controller as well as a fused 2-wire lead to power the GPS antenna from the controller cabinet. The serial cable can be provided with a DB9 or DB25 connector and pinned as required for compatibility with the controller. The data communicated through the serial interface to the controller is purely a

function of the GPS antenna (Garmin GPS 16xHVS). The data is sent at a default baud rate of 9600 (adjustable if necessary), 8 data bits, and no parity. The data interface protocol is based on the National Marine Electronics Associations (NMEA) 0183 ASCII interface specification. The standard is fully defined in NMEA 0183, Version 3.0 and may be obtained at www.nmea.org/ Details for the Garmin GPS antenna are available at http://static.garmincdn.com/pumac/GPS16HVS_TechnicalSpecifications.pdf.

Features

We provide two different assemblies for serial connection of GPS to ASC/3 controllers and ASC/2M masters. Both include a fused connection to the cabinet 24VDC, a cable to connect to the Garmin antenna, a mounting plate and gaskets for the antenna and a cable to connect to either a 9 pin or 25 pin serial connector.

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E-mail: sales@econolite.com
38508E0513-1

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www.econolite.com

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 - [Model 380 Card Rack](#)
- [TR-3 / TR-4 GPS Time Reference](#)
 - [Download TR-3 / TR-4 Application Notes](#)
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Model TR-3 / TR-4, GPS Time Reference

reset traffic controller time-of-day.....every day

- Reduce Citizen Complaints
- Improve Traffic Flow
- Increase Arterial Efficiency
- Improve Air Quality
- Installs in Minutes
- Save Technician Time

Automatically reset time-of-day in 170, 2070 and NEMA controllers* using GPS technology.

* logic ground input for resetting time, RS-232 is optional



Easy to Program - no laptop required



- [Set Rotary Switches](#)
- Hour to Reset Controller Time
- Time Zone
- Day/s of Week to Reset Controller Time
- [Set Jumpers](#)
- Hour or half hour to Reset Controller Time
- Daylight Savings Time adjust Yes or No

Easy to read LCD Display



- [LCD Display Shows](#)
- Acquiring Satellites
- Satellite Lock
- View Program

The GPS receiver locks onto 3 satellites and sends time data to the TR-3 / TR-4.

The TR-3 / TR-4 resets controller time with GPS accuracy.

Go to [Download Equipment Brochures](#) for more information and programming instructions

RTC Manufacturing, Inc.
for ordering and information call toll free **(800) 782-8721**
D/FW Area (817) 860-1217 * FAX (800) 448-8850

21/136 Series - Transfer Relays

DPDT, 30 Amps



E13224
21 Series only

The 21 and 136 series flash transfer relays have a proven industry record of reliability. Their rugged design has allowed the products to be plugged in and left, for years of service. Recent changes in lighting techniques from incandescent to LED have prompted us to respond with a redesigned relay better suited for the low currents of LED lighting, but equally usable with tungsten lamps.

GENERAL SPECIFICATIONS (@ 25° C)

Contacts:	21 Series	136 Series
Contact Configuration	DPDT	DPDT
Contact Material	Silver Alloy	Silver Alloy
Contact Rating		
120 / 240VAC Resistive	30 Amp	30 Amp
28VDC Resistive	20 Amp	20 Amp
Motor 120VAC 1 Phase	1 1/2Hp	1/4Hp
Motor 240VAC 3 Phase	2Hp	-
120VAC Tungsten	20 Amp	20 Amp
Contact Resistance, Initial	100 milliohms max @ 6VDC	100 milliohms max @ 6VDC

Coil:		
Coils Available	AC and DC	AC and DC
Nominal Coil Power	2.4VA	6VA
Input Voltage Tolerance - AC	75% to 110% of nominal	85% to 110% of nominal
Input Voltage Tolerance - DC	70% to 110% of nominal	75% to 110% of nominal
Drop-out voltage	10% of nominal	10% of nominal
Duty	Continuous	Continuous

Timing:		
Operate Time (max)	20 mS	20 mS
Release Time (max)	20 mS	20 mS

Dielectric Strength:		
Across Open Contacts	500Vrms	500Vrms
Between mutually insulated point	1500Vrms	1500Vrms
Insulation resistance	10,000 Mohms min @ 500VDC	10,000 Mohms min @ 500VDC

Temperature:		
Operating	-34 to 74°C (-30 to 165°F)	-34 to 74°C (-30 to 165°F)
Storage	-40 to 105°C (-40 to 221°F)	-40 to 105°C (-40 to 221°F)

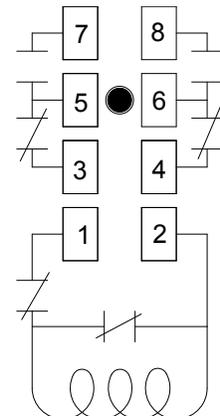
Life Expectancy:		
Electrical (full load)	200,000	100,000
Mechanical (no load)	5,000,000	5,000,000

Miscellaneous:		
Mounting Position	Any	Any
Enclosure	Clear Polycarbonate	Clear Polycarbonate
Weight	7.2oz (205 grams)	8.1oz (230 grams)



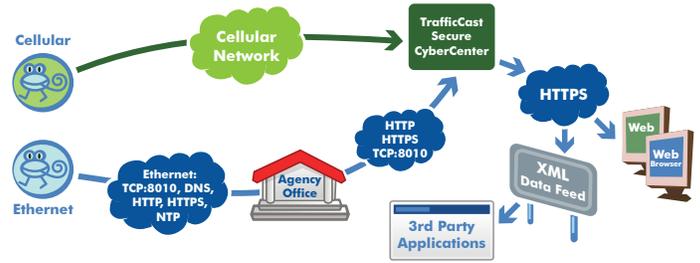
The 21 series coil is rectified which provides chatter free operation in brownout conditions down to 85VAC and will not overheat up to 130VAC. Rectified coils also provide less power consumption and less heating.

Wire Diagram

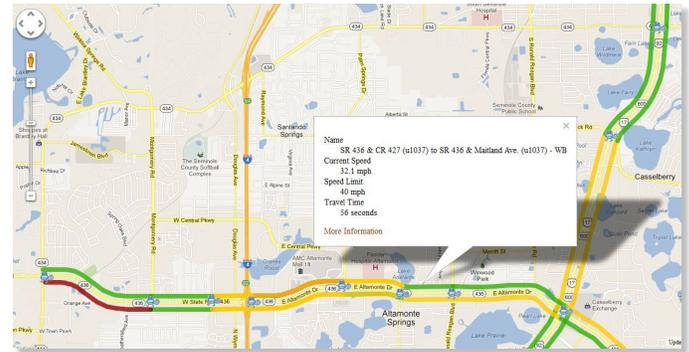




Ethernet or Cellular Communications | AC, PoE, or Solar Power
Real-Time Travel Times and Speeds
Web-Enabled and Archived Data Management

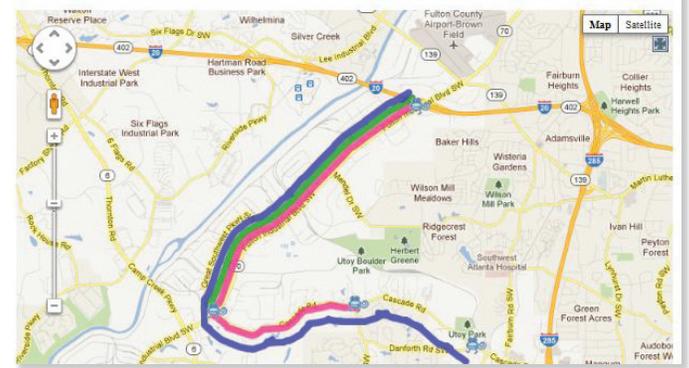


Real-Time Communications Options

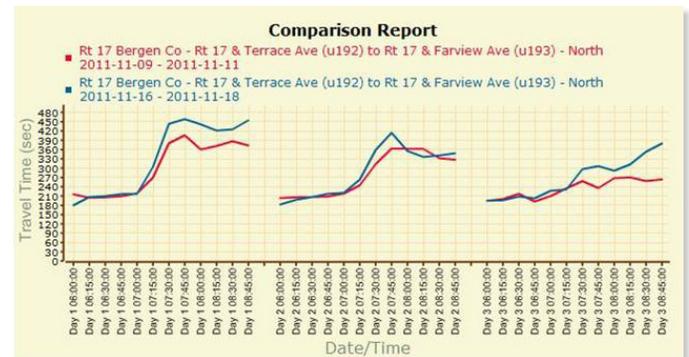


BlueTOAD Speed Map

Origin	Destination	Waypoint	Map/Graph Color	Number of matches	Percentage of matches	
Hwy 20 (402) & Fulton Industrial Blvd (Device 199)	Cascade Rd & Fulton Industrial Blvd (Device 207)		Green	3142	87.64%	Edit path
Hwy 20 (402) & Fulton Industrial Blvd (Device 199)	Cascade Rd & New Hope Rd (Device 213)		Pink	218	6.08%	Edit path
Hwy 20 (402) & Fulton Industrial Blvd (Device 199)	Cascade Rd & Danforth Rd (Device 210)		Blue	225	6.28%	Edit path
Total				3585	100%	



Origin/Destination Reporting



Comparison Reports

BlueTOAD

Bluetooth Travel-time Origin And Destination Advanced System

BlueTOAD™ is the most advanced traffic-monitoring system on the market, directly measuring travel times using cost-effective, non-intrusive roadside technology.

Reliable Technology

BlueTOAD detects anonymous Bluetooth signals broadcast from mobile devices to determine accurate travel times and speeds.

Real-Time Data

BlueTOAD calculates travel times and speeds in real-time to provide route management capabilities.

Flexible Installation

BlueTOAD can be installed independent of local power or communications systems by using a cellular data connection and solar panel, or can be plugged into existing electrical and/or fiber infrastructure. Utilizing Power over Ethernet (PoE) technology simplifies network design and deployment.

Powerful Data Processing

The TrafficCast secure cyber-center processes the data collected by BlueTOAD devices. Data can be viewed in real-time or analyzed historically through a BlueTOAD Web interface, which provides travel times, road speeds, and MAC address detection counts.

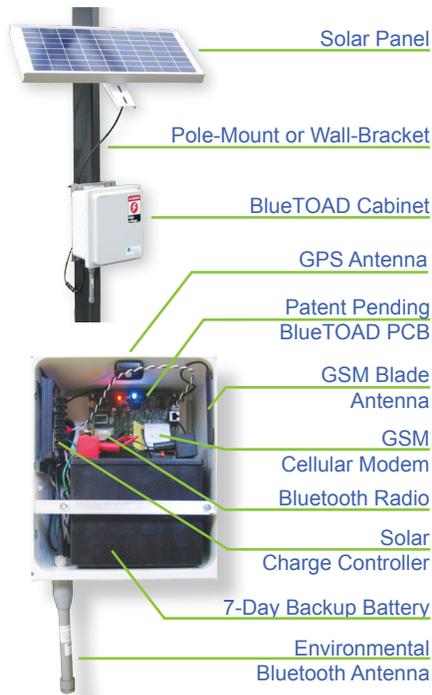
BlueTOAD System Advantages

- TrafficCast proven algorithms for filtering and processing data inputs to compute real-time travel times and speeds.
- Speeds/travel times updated in real-time on a secure web “Dashboard” and speed maps.
- XML schema is available for third-party integration such as an Advanced Traffic Management System (ATMS), agency website, or Dynamic Message Sign (DMS) software control.
- Secure web interface for generating statistical and analytical reports covering: speeds, travel times, origin/destination, and before and after comparisons.
- Real-time monitoring of device status and performance.

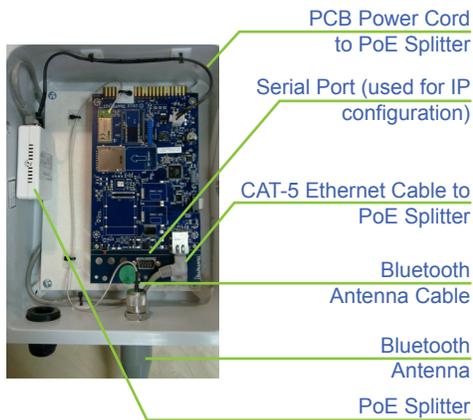
Power over Ethernet (PoE) Benefits

- Single Power over Ethernet (PoE) shielded CAT-5 Ethernet cable supplies power and network connection to each BlueTOAD unit.
- Save conduit space and simplify installation using single Ethernet cable suitable for longer distances.

BlueTOAD Cellular



BlueTOAD Ethernet (PoE)



BlueTOAD Cellular Power Options	BlueTOAD Ethernet Power Options
 Solar Power with Battery 110-220 VAC / 6-40 VDC	 Power over Ethernet (PoE) 110-220 VAC / 6-40 VDC
 AC Power 110-220 VAC	
 Power over Ethernet (PoE) 110-220 VAC / 6-40 VDC	

Technical Specifications

BlueTOAD Cellular

Power Specifications

Voltage Input: 6 – 30 Volts
 GSM Modem-Based - Max Current @ 12V - 350 mA (Typical 140 mA)

Power Source Options

- **100 - 240 VAC**
- **Solar Power 30W, 16.8Vmp Solar**
 Weight: 16.6 lbs. (incl. mounting bracket)
 Battery: 44 Ah Sealed AGM
- **Solar Power 50W, 17.5Vmp Solar**
 Weight: 25.2 lbs. (incl. mounting bracket)
 Battery: 44 Ah Sealed AGM
- **Power over Ethernet (PoE)**
 IEEE 802.3af standard
 110/220 VAC supply to injector

Operating Range

-30°C to +65°C

Processor

Real time microcontroller

Connectivity

GSM Quad-band Bluetooth

Bluetooth

CSR Bluecore 4 Class 1

Data Storage

Secure Digital (SD) – up to 1 year of storage

Antennae

Bluetooth: 4 dBi Omni (Standard)
 Custom options available

GSM: I-Bar Penta Band Cellular Antenna

GPS: Active Patch 31 dBi

NEMA 4X Enclosure

12 in. x 10 in. x 7.75 in.

Weight (with battery & mounting brackets): 43 lbs.

BlueTOAD Ethernet

Power Specifications

DC Supply Voltage: Minimum - 6 VDC
 Maximum - 40 VDC
 DC Supply Current: Maximum 100 mA @ 12 VDC

Power Source Options

Power over Ethernet (PoE)

IEEE 802.3af standard
 110/220 VAC supply to injector

Operating Range

-30°C to +65°C

Processor

Real time microcontroller

Connectivity

Ethernet 10BASE-T / 100BASE-T
 Static or DHCP IP Addressing

Bluetooth

CSR Bluecore 4 Class 1

Data Storage

Secure Digital (SD) – up to 1 year of storage

Antenna

Bluetooth: 4 dBi Omni (Standard)
 Custom options available

NEMA 4X Enclosure

10 in. x 8 in. x 5.75 in.

Weight (with mounting brackets): 9 lbs.

Functionality	BlueTOAD Cellular	BlueTOAD Ethernet
Non-intrusive detection		
Power over Ethernet		
Solar Power Option		
Real-Time Communications		
Web-based Software		
Travel Time, Speed Reports & Graphs		
Archived data		

TRAFFICCAST

TrafficCast International, Inc., 2801 Coho Street, Suite 100, Madison, WI 53713
 Phone: 608.204.0001 • Fax: 608.204.0114 • www.trafficcast.com/products • sales@trafficcast.com

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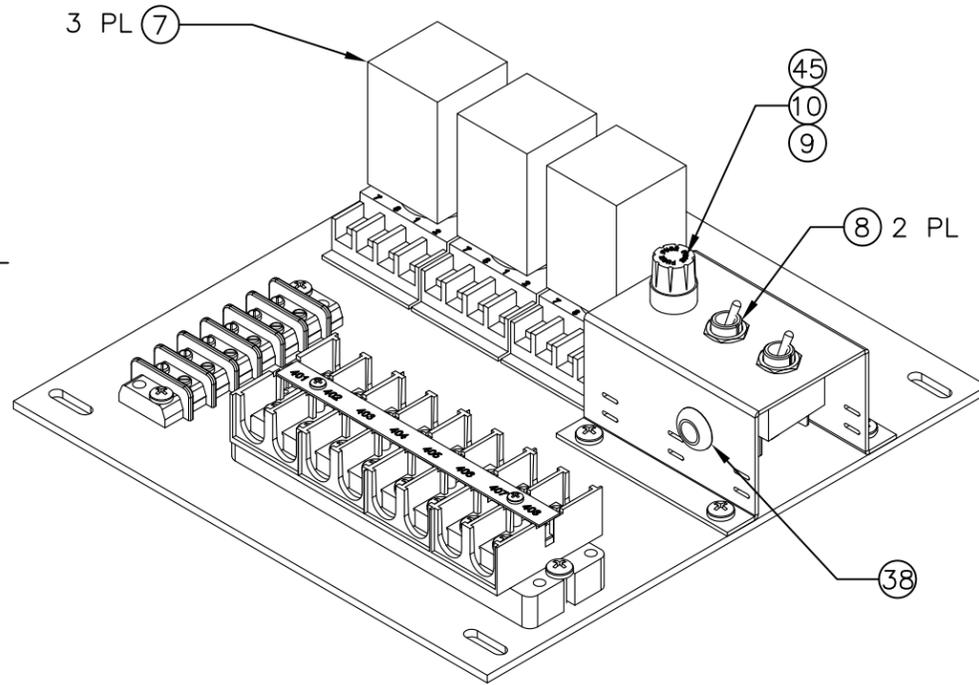
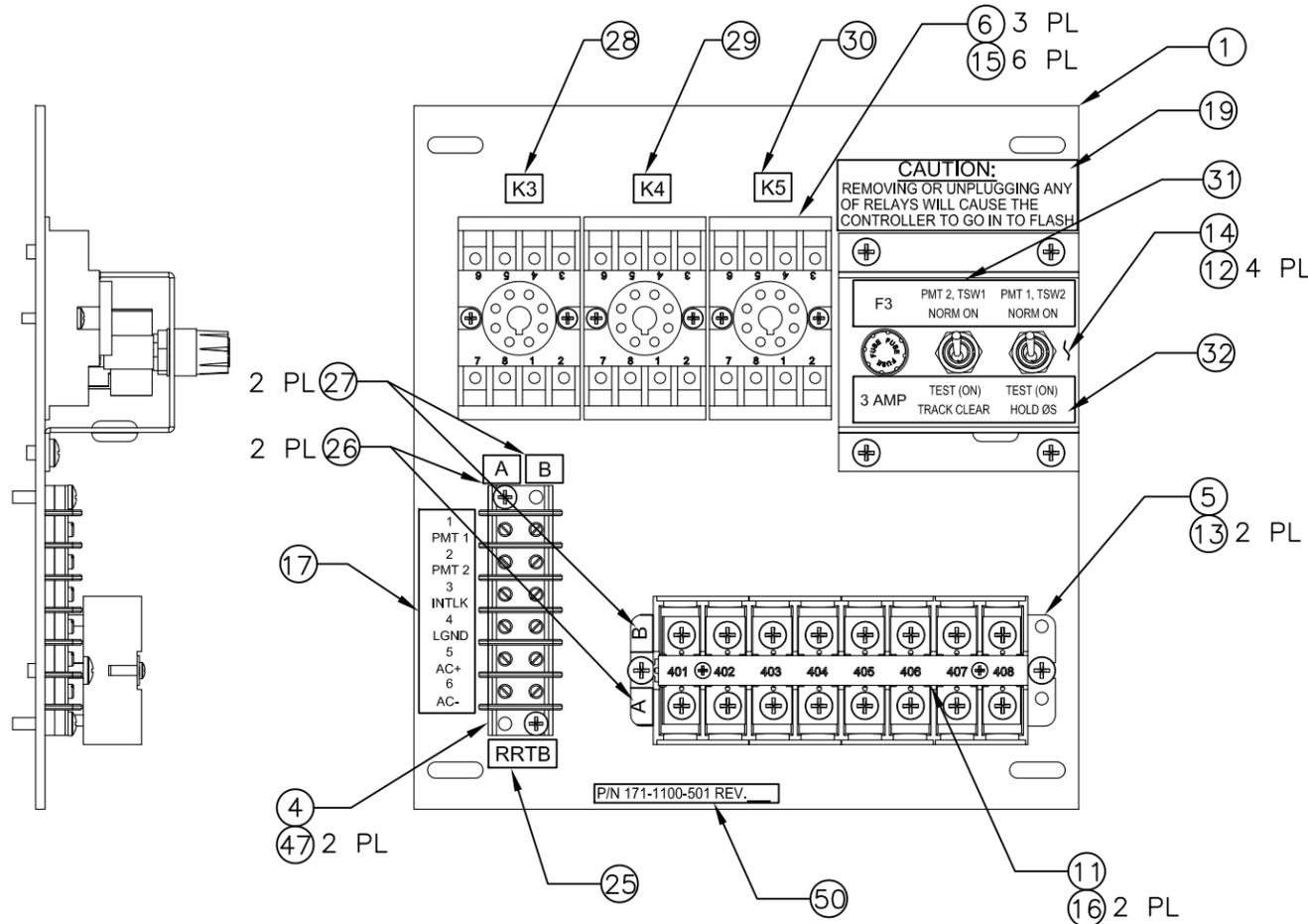
3

2

1

REVISIONS			
REV.	DESCRIPTION	APPD/DATE	E.O. NO.
E	SEE ECO	B.N./9-19-11	24581
F	SEE ECO	S.L./01-03-11	24756

REVISIONS			
REV.	DESCRIPTION	APPD/DATE	E.O. NO.
NC	INITIAL RELEASE	S.G./2-8-07	22316
A	SEE ECO	S.G./6-12-07	22409
B	SEE ECO	B.N/7-26-07	24013
C	SEE ECO	B.N/3-21-11	24299
D	SEE ECO	B.N/3-31-11	24358



505		ASSY, PANEL, 8/6 WIRE, PREEMPTION, ADOT
504	① ②	ASSY, PANEL, 12 WIRE RR, PREEMPTION
503	①	ASSY, PANEL, 8/6 WIRE RR, PREEMPTION W/SS
502	① ②	ASSY, PANEL, 8/6 WIRE RR, PREEMPTION
501	①	ASSY, PANEL, 8/6 WIRE RR, PREEMPTION
DASH No.	REV	DESCRIPTION

- ③ ROUTE WIRES PER MWI-09-229.
- ② SEE 171-1100-902 (W/L) FOR -502 ASSY. SEE 171-1100-402 (W/D) FOR -502 ASSY. SEE 171-1100-904 (W/L) FOR -504 ASSY. SEE 171-1100-404 (W/D) FOR -504 ASSY.
- ① SEE BOM FOR REVISION.

- ③ ENRUTE LOS CABLES DE ACUERDO A MWI-09-229T.
- ② VER 171-1100-902 (W/L) PARA ENSAMBLE -502 . VER 171-1100-402 (W/D) PARA ENSAMBLE -502 . VER 171-1100-904 (W/L) PARA ENSAMBLE -504 . VER 171-1100-404 (W/D) PARA ENSAMBLE -504 .
- ① VER BOM PARA REVISIÓN.

NOTES: (UNLESS OTHERWISE SPECIFIED)

NOTAS: (A MENOS QUE SE ESPECIFIQUE LO CONTRARIO)

TOLERANCES UNLESS OTHERWISE SPECIFIED		
DECIMALS	ANGLES	
± .03 .XX	± .015 .XXX	± 30'
DO NOT SCALE DRAWING		
DRILLED HOLE		
.013 - .125	+ .004 - .001	
.126 - .250	+ .005 - .001	
.251 - .500	+ .006 - .001	
.501 - .750	+ .008 - .001	
.751 - 1.000	+ .010 - .001	
1.001 - 2.000	+ .012 - .001	

MATERIAL:	
FINISH:	
DRAWN M. CHU	DATE 1-29-07
CHECKED R. McLENDON	DATE 1-30-07
ENGINEER T. LUONG	DATE 2-2-07
APPROVED G. DUNCAN	DATE 2-2-07
SCALE XXXX	F.C.F.

ECONOLITE 3360 E. LA PALMA ANAHEIM, CALIFORNIA 92806

TITLE
ASSY, PANEL, RAILROAD, PREEMPTION

SHEET 1 OF 7
SIZE B
DRAWING NO. 171-1100-5XX
REV F

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4

3

2

1

ADVANCED RAILROAD PRE-EMPTION INTERFACE PANEL (8/6 WIRES) -501 / -503 / -505

NOTE: ADVANCED/
"TRACK CLEAR PMT"
RELAY K3 N.C. CONTACTS
SHOWN ENERGIZED

NOTE: SUPERVISORY CONTROL
RELAY K4 N.O. CONTACTS
SHOWN DE-ENERGIZED

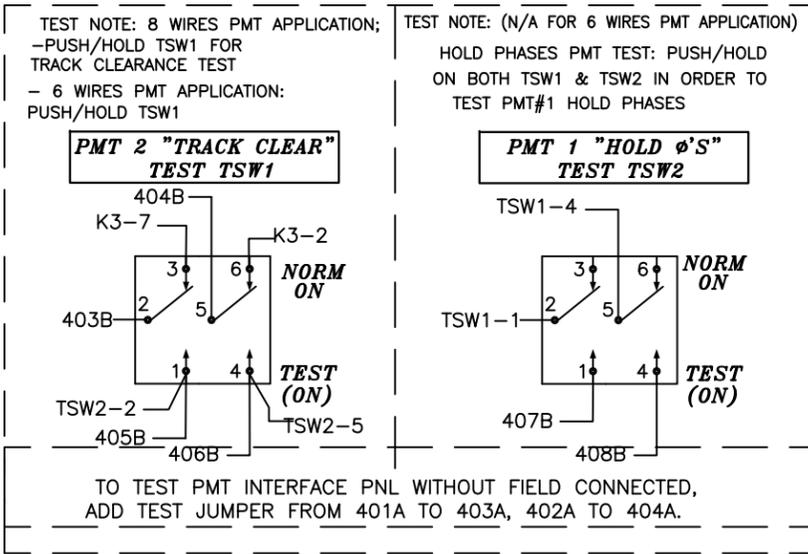
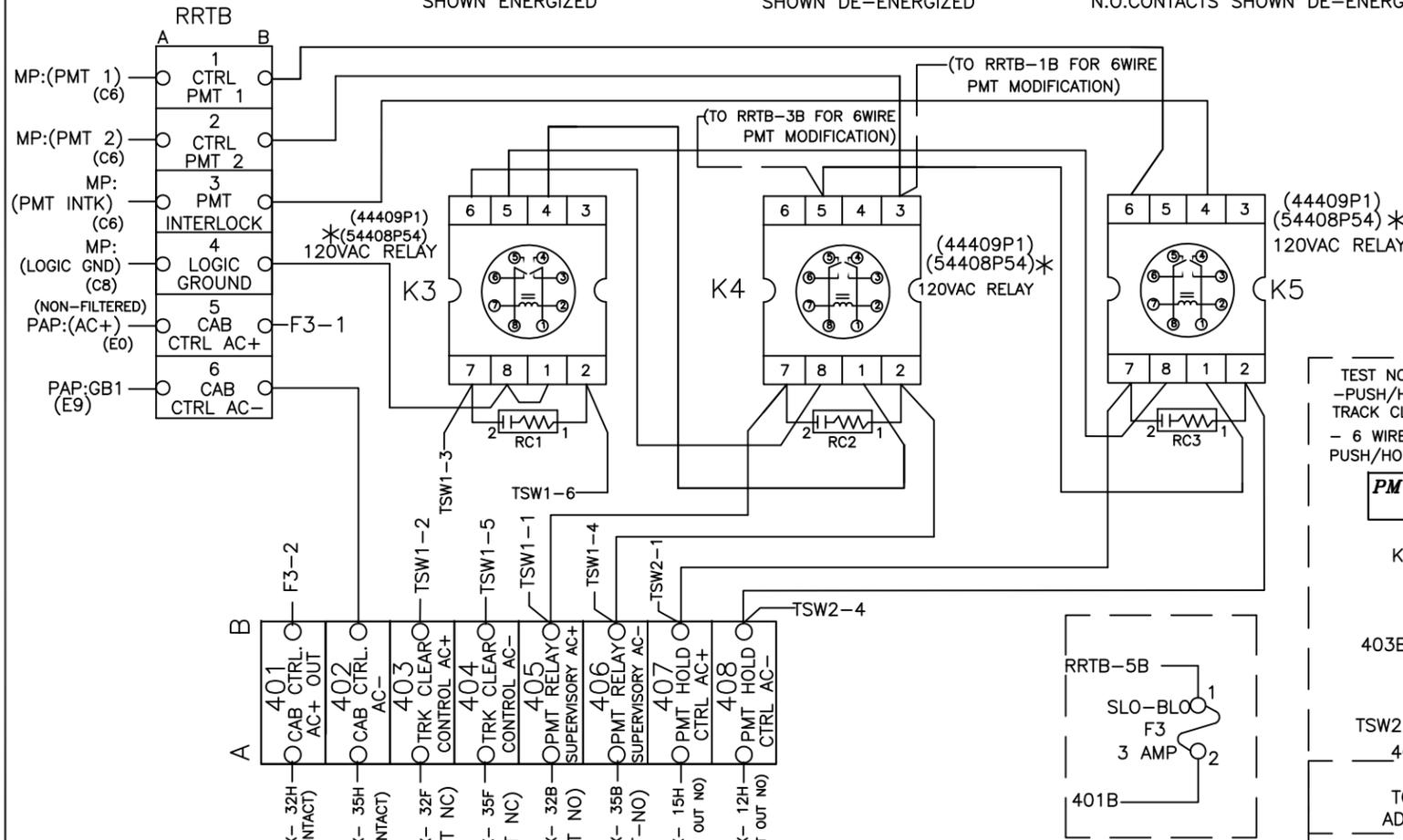
NOTE: GATE 2 HORIZONTAL
"HOLD PHASES PMT" RELAY K5
N.O. CONTACTS SHOWN DE-ENERGIZED

CAUTION:

• REMOVING OR UNPLUGGING ANY OF RELAYS WILL
CAUSE THE CONTROLLER TO GO IN TO FLASH.

EEPROM/DATABASE PMT INTLK INPUT REQUIREMENT!

- TS2 ECONOLITE ASC/2 CONTROLLER EEPROM REMAPPED I/O "LAMP INDICATED CONTROL" FOR PMT INTERLOCK INPUT REQUIRED!
- CONTROLLER PREEMPT INTERLOCK MUST BE ENABLED; WRITE PROTECT: ADDRESS 0E0= 04
- TS2 ECONOLITE ASC/3 CONTROLLER DATA BASE REMAPPED "PMT 1&2 INTERLOCK" FOR PMT INTERLOCK INPUT REQUIRED!
- ASC/3 CONTROLLER PMT1 INTERLOCK="YES"



WIRE CODE	
WIRE GAUGE	WIRE COLOR
A - 22	0 - BLACK
B - 20	1 - BROWN
C - 18	2 - RED
D - 16	3 - ORANGE
E - 14	4 - YELLOW
F - 12	5 - GREEN
G - 10	6 - BLUE
H - 8	7 - VIOLET
I - 6	8 - GRAY
	9 - WHITE

EX: 18 GA. BLACK WIRE = (C0)
10 GA. WHITE WIRE = (F9)

8 WIRES RR PREEMPT OPERATION REFERENCES:

RAILROAD PREEMPT PROGRAMMING:
AFTER CONNECTING FIELD WIRES TO THE RR EQUIPMENT, MAKE THE FOLLOWING PROGRAM CHANGE TO THE PREEMPTORS:

- PMT #1 = PREEMPT HOLD CONDNDITION
- EXIT PHASES
- TIMMING INFORMATION.
- PMT #2 = TRACK CLEARANCE PHASES.
- TIMMING INFORMATION

INTO PRIORITY PREEMPTOR 1&2, THEN

- SET PMT#1&2 ACTIVE TO "YES"
- SET PMT#1&2 PRIORITY TO "YES"

6 WIRES RR PREEMPT OPERATION REFERENCES:

HARDWARE MODIFICATION:
- NO K5 RELAY REQUIRED/ REMOVE
MOVE WIRES: FROM: TO:
RRTB-1B K5-6 K4-3
RRTB-3B K5-4 K4-5

- RRTB-2A (2nd PMT)= N/A (NO CONNECTION)
- TSW2 = NO ACTIVE
- TSW1= PMT 1 TEST SW

RAILROAD PREEMPT PROGRAMMING:
AFTER CONNECTING FIELD WIRES TO THE RR EQUIPMENT, MAKE THE FOLLOWING PROGRAM CHANGE TO THE PREEMPTORS:

- TRACK CLEARANCE PHASES
- HOLD PHASES
- EXIT PHASES
- TIMMING INFORMATION

INTO PRIORITY PREEMPTOR 1, THEN

- SET PMT#1 ACTIVE TO "YES"
- SET PMT#1 PRIORITY TO "YES"

* 54408P65 ON ASSY 171-1100-505

SCALE 1/1	SHEET 2 OF 7	SIZE B	DRAWING NO. 171-1100-5XX	REV F
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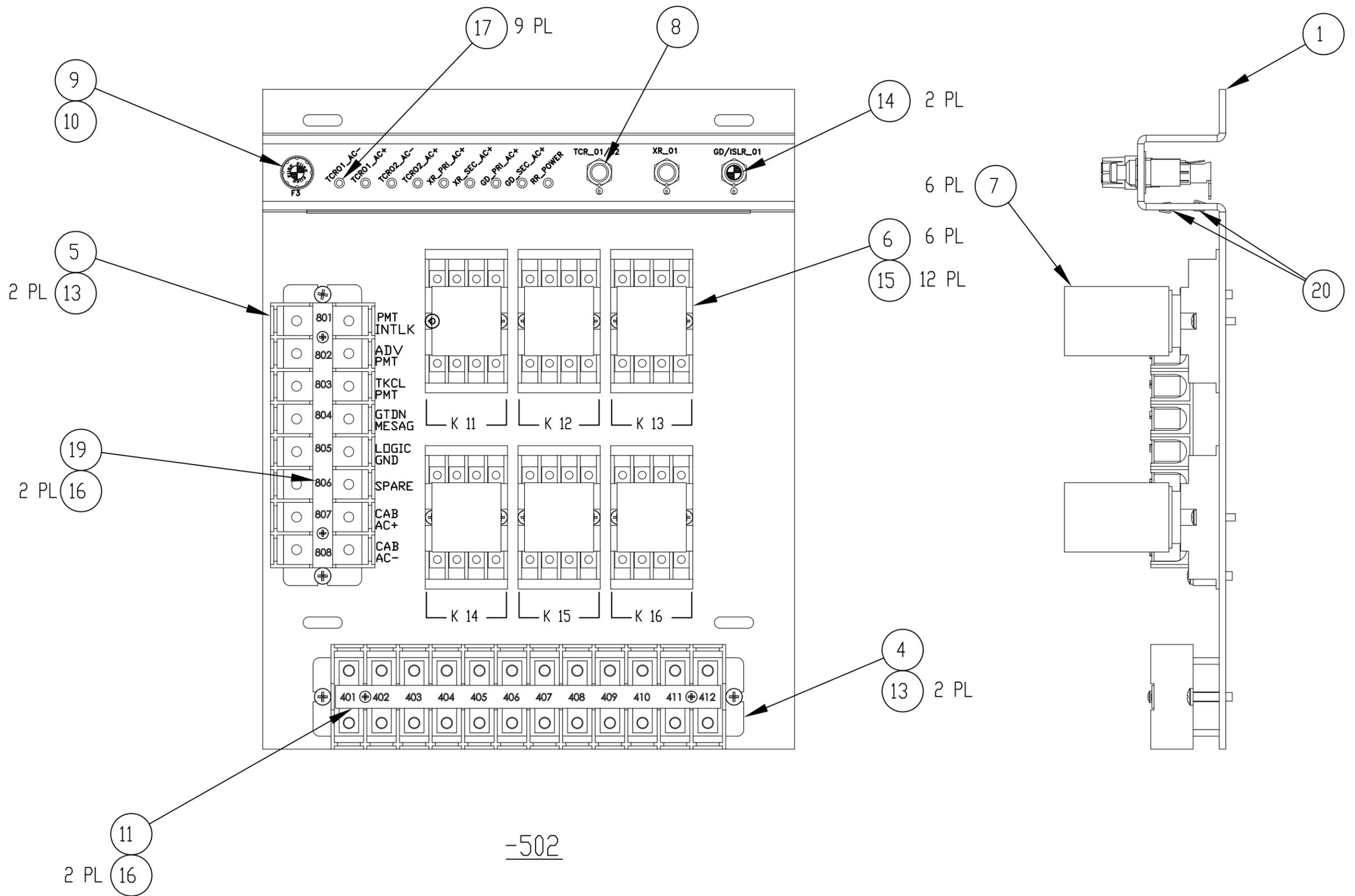
WIRE LIST-501/-503/-505

WIRE NO.	DESCRIPTION OF WIRE	LENGTH (INCHES)	FROM ITEM	FROM TERM	FROM FIT	TO ITEM	TO TERM	TO FIT	REMARKS
1	18 AWG WHT	6	TSW1	4	S	TSW2	5	S	18 AWG WHT-ID TSW1-4/ID TSW2-5
2	18 AWG BLK	6	TSW1	1	S	TSW2	2	S	18 AWG BLK-ID TSW1-1/ID TSW2-2
3	18 AWG WHT	11	408	B	L	TSW2	4	S	18 AWG WHT-P15 ID 408-B/ID TSW2-4
4	18 AWG BLK	11	407	B	L	TSW2	1	S	18 AWG BLK-P15 ID 407-B/ID TSW2-1
5	18 AWG WHT	11	406	B	L	TSW1	4	S	18 AWG WHT-P15 ID 406-B/ID TSW1-4
6	18 AWG BLK	11	405	B	L	TSW1	1	S	18 AWG BLK-P15 ID 405-B/ID TSW1-1
8	18 AWG WHT	11	404	B	L	TSW1	5	S	18 AWG WHT-P15 ID 404-B/ID TSW1-5
9	18 AWG BLK	11	403	B	L	TSW1	2	S	18 AWG BLK-P15 ID 403-B/ID TSW1-2
10	18 AWG BLK	22	TSW1	3	S	K3	7	L	18 AWG BLK-ID TSW1-3/P28-ID K3-7
11	18 AWG WHT	22	TSW1	6	S	K3	2	L	18 AWG WHT- ID TSW1-6/P28-ID K3-2
12	14 AWG BLK	22	F3	1	S	RRTB	5B	L	14 AWG BLK-ID F3-1/P20-ID RRTB-5B
13	14 AWG BLK	18	F3	2	S	401	B	L	14 AWG BLK-ID F3-2/P21-ID 401-B
14	14 AWG WHT	10	402	B	L	RRTB	6B	L	14 AWG WHT-P21-ID 402-B/P20-ID RRTB-6B
15	18 AWG BLK	10	405	B	L	K4	7	L	18 AWG BLK-P21-ID 405-B/P28-ID K4-7
16	18 AWG WHT	10	406	B	L	K4	2	L	18 AWG WHT-P21-ID 406-B/P28-ID K4-2
17	18 AWG BLK	10	407	B	L	K5	7	L	18 AWG BLK-P21-ID 407-B/P28-ID K5-7
18	18 AWG WHT	10	408	B	L	K5	2	L	18 AWG WHT-P21-ID 408-B/P28-ID K5-2
19	18 AWG GRY	9	RRTB	4B	L	K3	8	L	18 AWG GRY-P28 ID RRTB-4B/P28 ID K3-8
20	18 AWG GRY	1.5	K3	8	L	K3	1	L	18 AWG GRY-P28/P28
21	18 AWG BLU	17	RRTB	3B	L	K5	4	L	18 AWG BLU-P28 ID RRTB-3B/P28-ID K5-4
22	18 AWG BLU	17	RRTB	2B	L	K4	3	L	18 AWG BLU-P28 ID RRTB-2B/P28 ID K4-3
23	18 AWG BLU	17	RRTB	1B	L	K5	6	L	18 AWG BLU-P28 ID RRTB-1B/P28 ID K5-6
24	18 AWG BLU	12	K3	6	L	K4	8	L	18 AWG BLU-P28 ID K3-6/P28 ID K4-8
25	18 AWG BLU	15	K3	5	L	K5	8	L	18 AWG BLU-P28 ID K3-5/P28 ID K5-8
26	18 AWG BLU	12	K3	4	L	K4	1	L	18 AWG BLU-P28 ID K3-4/P28 ID K4-1
27	18 AWG BLU	15	K4	5	L	K5	1	L	18 AWG BLU-P28 ID K4-5/P28 ID K5-1
28			RC1	1		K3	2	L	QUENCHARC SLEEVE LEADS - P28
29			RC1	2		K3	7	L	QUENCHARC SLEEVE LEADS - P28
30			RC2	1		K4	2	L	QUENCHARC SLEEVE LEADS - P28
31			RC2	2		K4	7	L	QUENCHARC SLEEVE LEADS - P28
32			RC3	1		K5	2	L	QUENCHARC SLEEVE LEADS - P28
33			RC3	2		K5	7	L	QUENCHARC SLEEVE LEADS - P28

SCALE 1/1	SHEET 3 OF 7	SIZE B	DRAWING NO. 171-1100-5XX	REV F
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2

1



SCALE	SHEET	OF	SIZE	DRAWING NO.	REV
1/1	4	7	B	171-1100-5XX	F

4

3

2

1

D

D

C

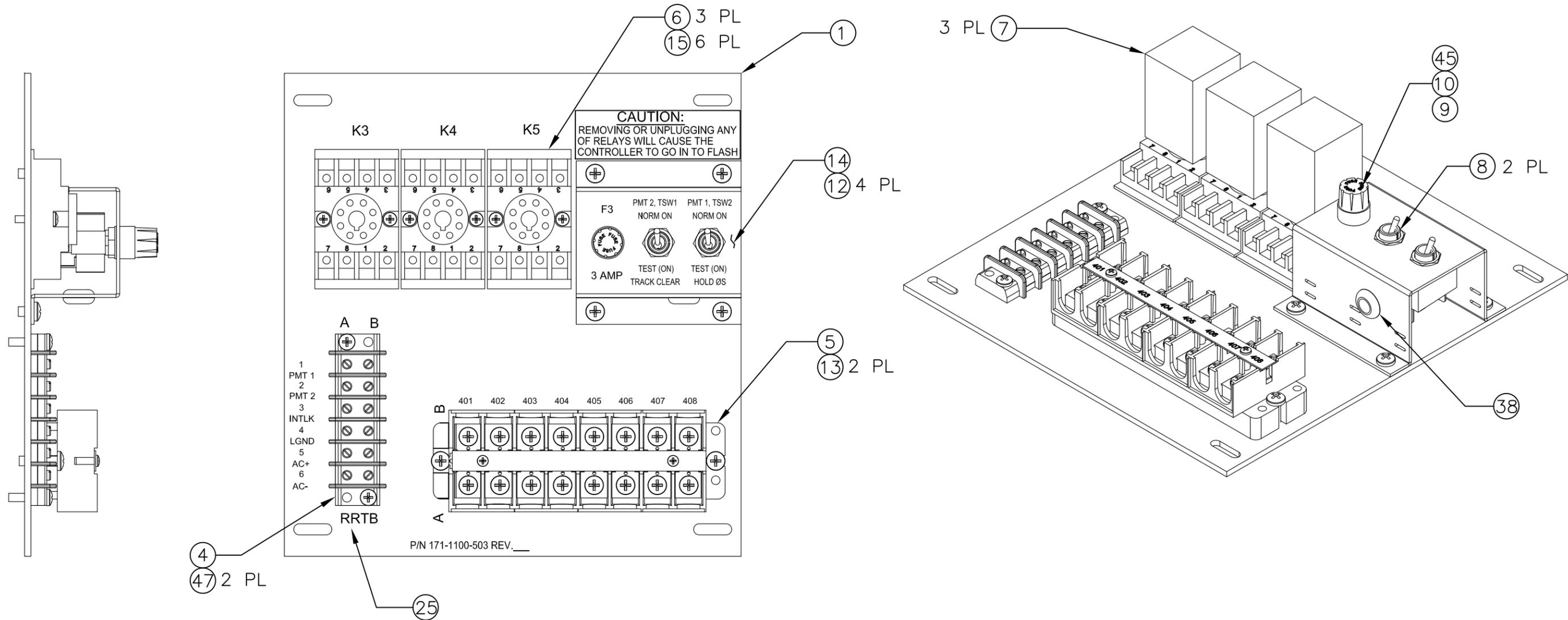
C

B

B

A

A



-503

SCALE 1/1	SHEET 5 OF 7	SIZE B	DRAWING NO. 171-1100-5XX	REV F
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4

3

2

1

2



1

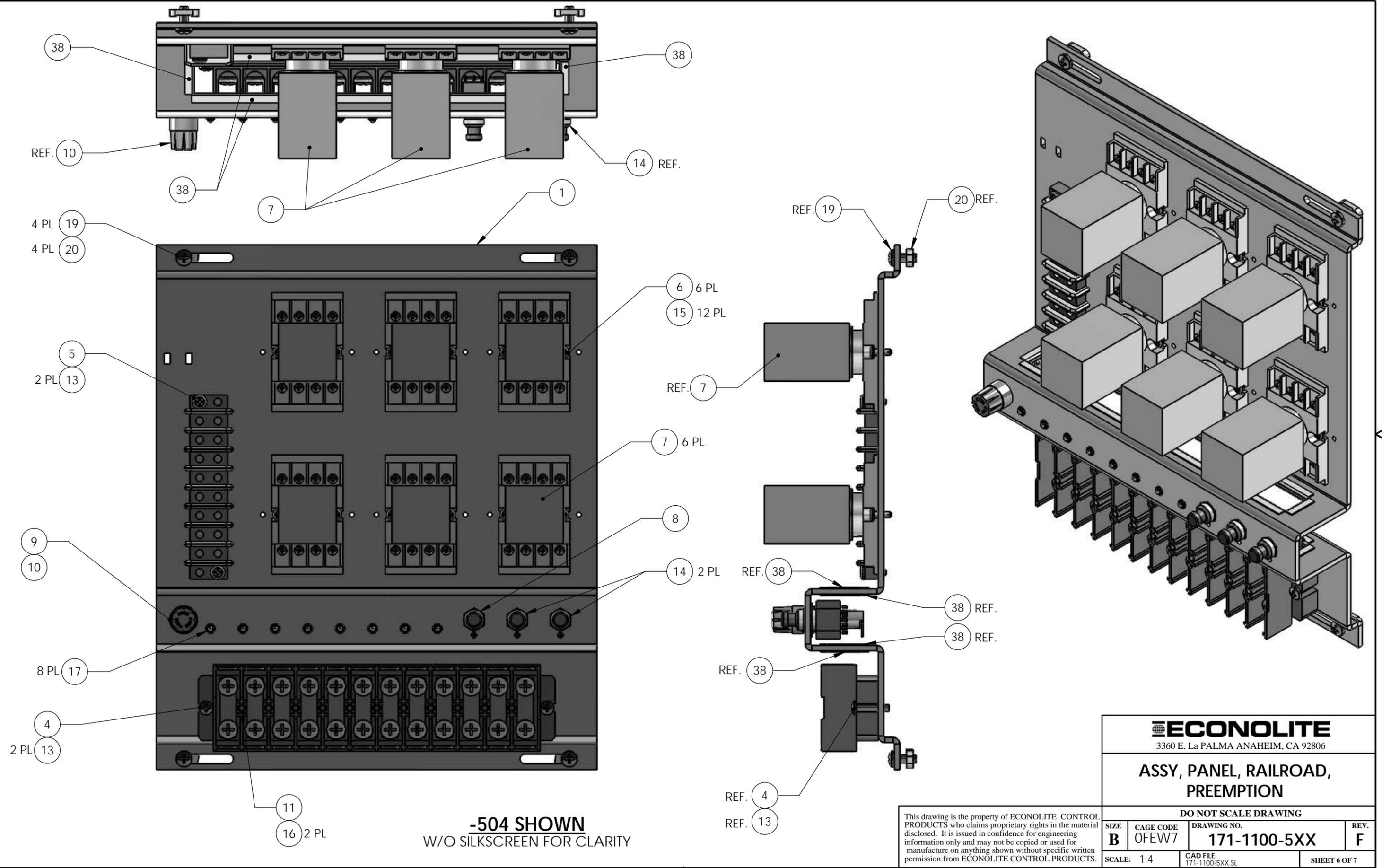
B

B



A

A



-504 SHOWN
W/O SILKSCREEN FOR CLARITY

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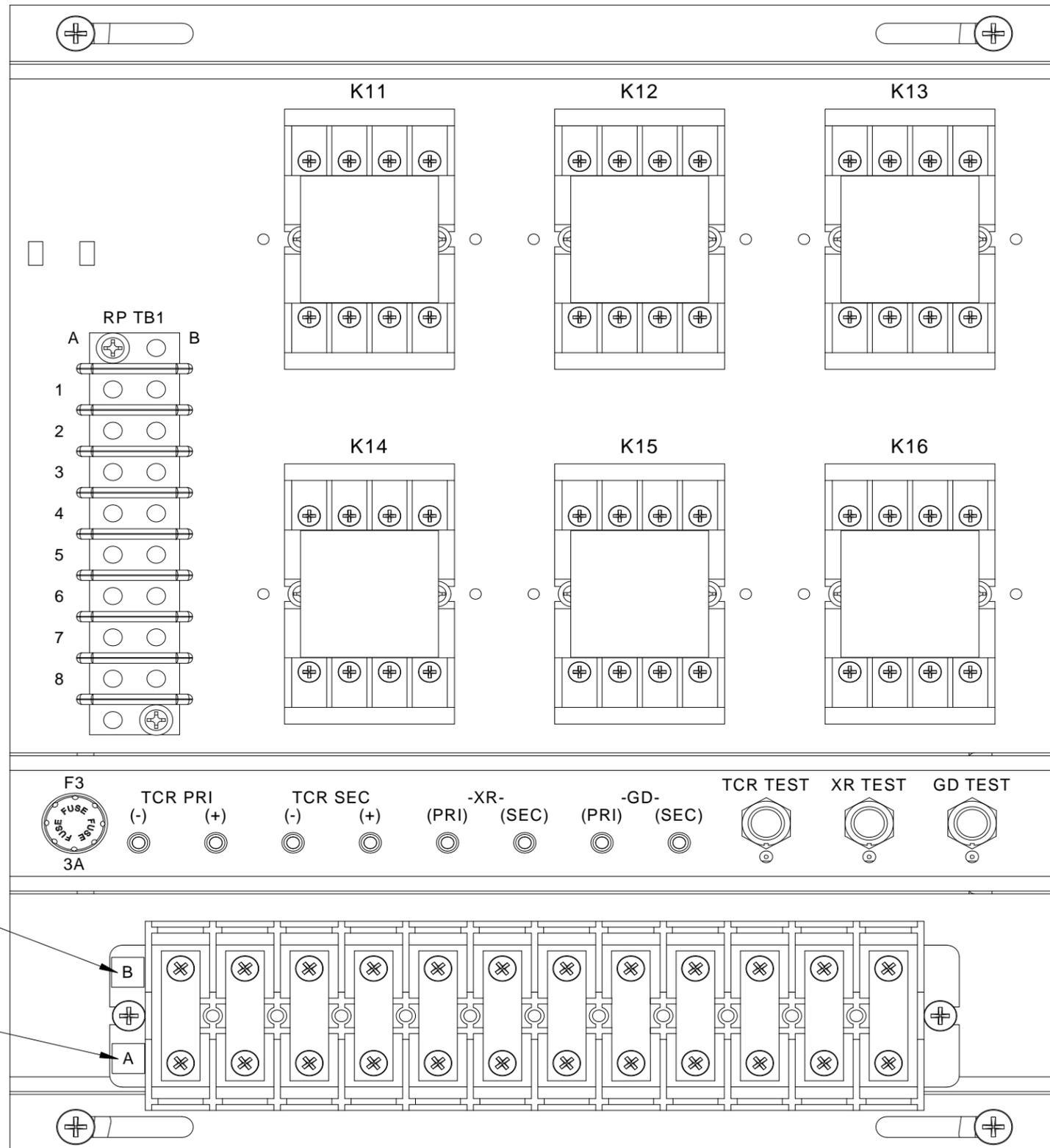
ECONOLITE 3360 E. La PALMA ANAHEIM, CA 92806			
ASSY, PANEL, RAILROAD, PREEMPTION			
DO NOT SCALE DRAWING			
SIZE B	CAGE CODE OFEW7	DRAWING NO. 171-1100-5XX	REV. F
SCALE: 1:4	CAD FILE: 171-1100-5XX.SL DDRW	SHEET 6 OF 7	

B

B

A

A



40

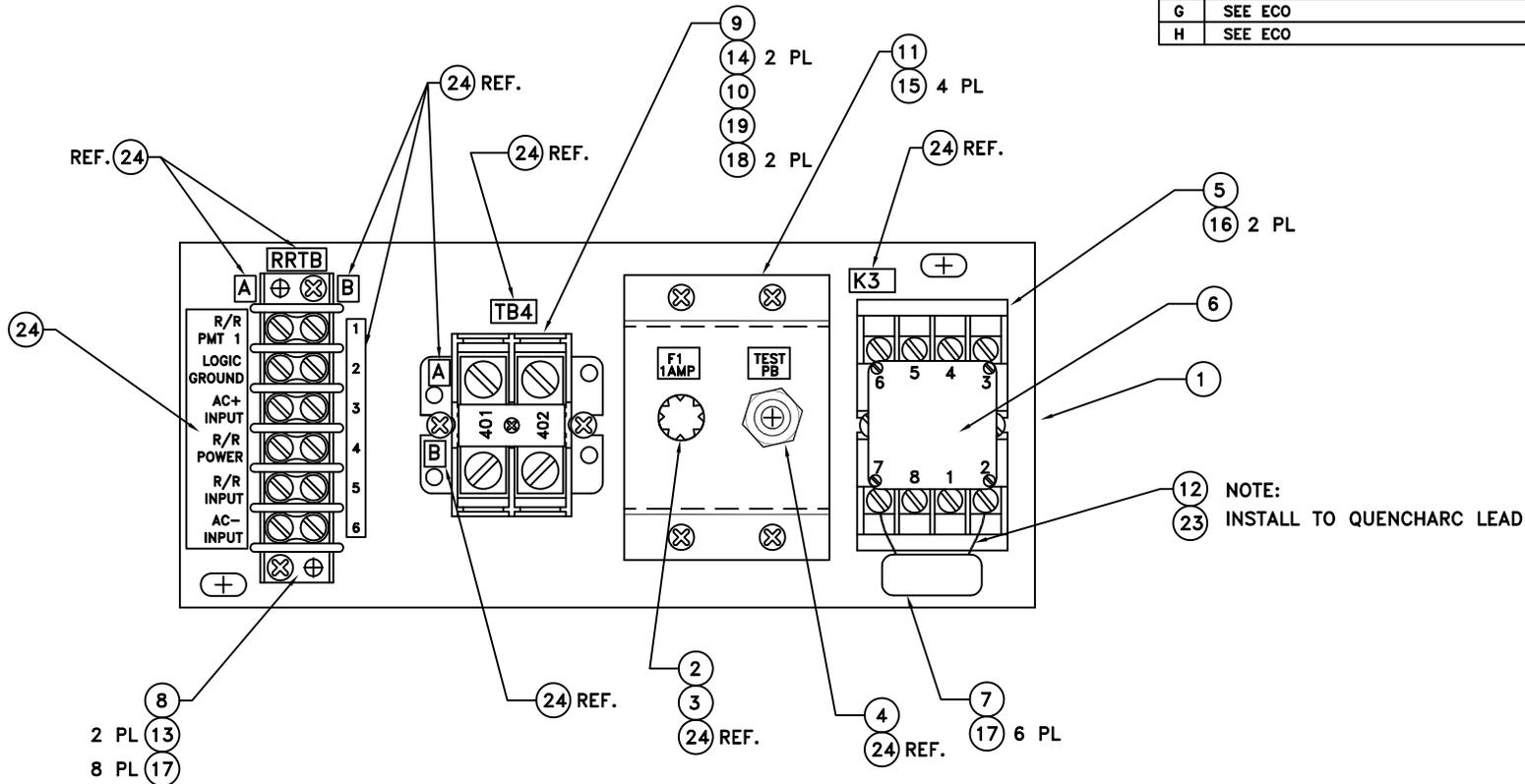
41

171-1100-504 SHOWN W/ SILKSCREEN

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ECONOLITE 3360 E. La PALMA ANAHEIM, CA 92806			
ASSY, PANEL, RAILROAD, PREEMPTION			
DO NOT SCALE DRAWING			
SIZE B	CAGE CODE OFEW7	DRAWING NO. 171-1100-5XX	REV. F
SCALE: 1:4	CAD FILE: 171-1100-5XX.SLDDRW	SHEET 7 OF 7	

REVISIONS			
REV.	DESCRIPTION	APPD/DATE	E.O. NO.
NC	INITIAL RELEASE		18823
A	ADD L.I. 19 TO TB4		19412
B	REVISED PER MARK UP	L. FUSS 2-21-02	19662
C	ADD LABELS A, B & RRTB (ZONE C4)	L. FUSS 5-24-02	19811
D	SEE ECO	L. FUSS 4-10-03	20225
E	SEE ECO	S. GILLESPIE 8-23-06	22061
F	SEE ECO	S. GILLESPIE 8-23-06	22155
G	SEE ECO	S. GILLESPIE 10-4-06	22182
H	SEE ECO	S. GILLESPIE 2-26-10	23753



G1

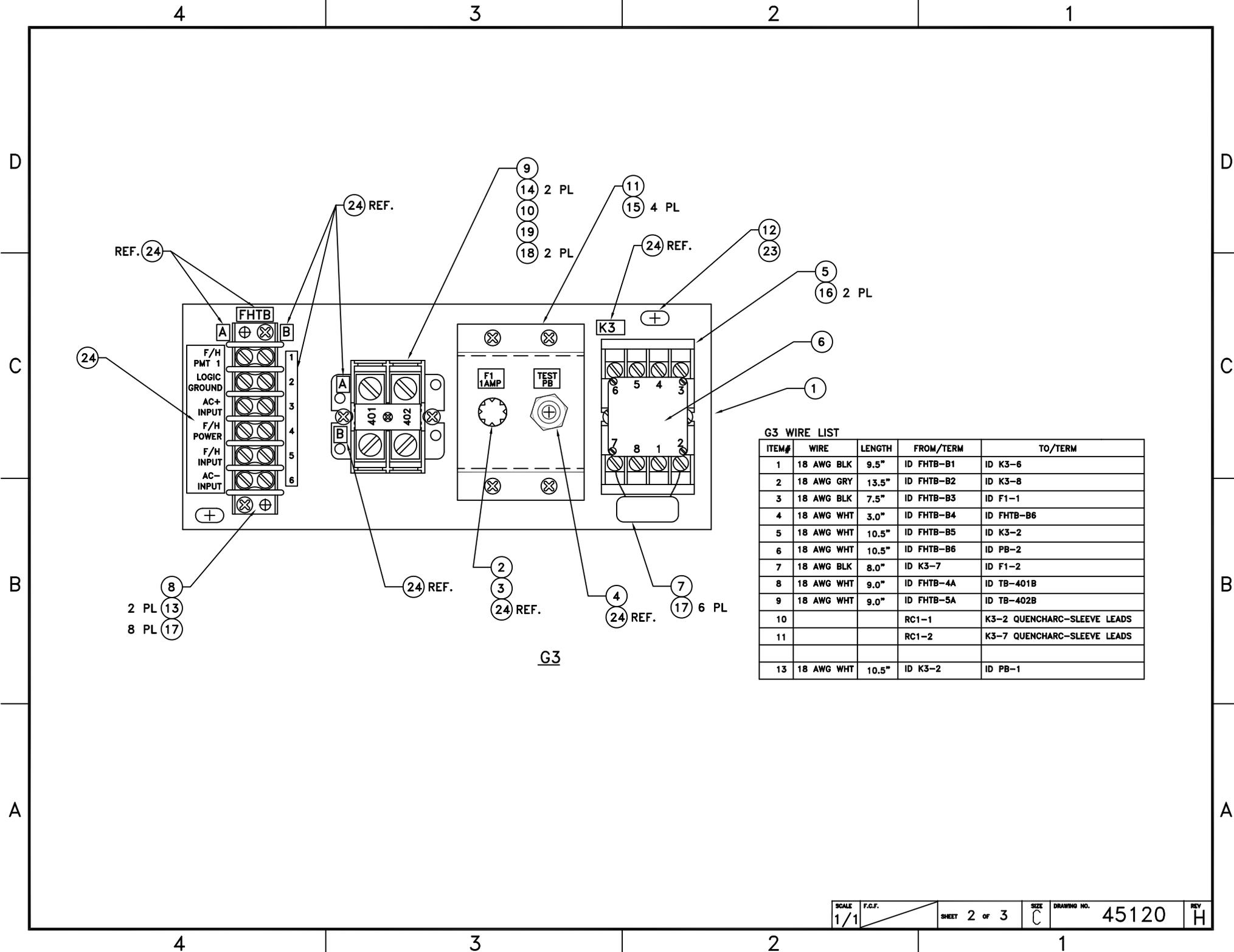
G1 WIRE LIST

ITEM#	WIRE	LENGTH	FROM/TERM	TO/TERM
1	18 AWG BLK	9.5"	ID RRTB-B1	ID K3-5
2	18 AWG GRY	13.5"	ID RRTB-B2	ID K3-8
3	18 AWG BLK	7.5"	ID RRTB-B3	ID F1-1
4	18 AWG BLK	9.5"	ID RRTB-B4	ID F1-2
5	18 AWG BLK	10.5"	ID RRTB-B5	ID PB-2
6	18 AWG WHT	10.5"	ID RRTB-B6	ID K3-2
7	18 AWG BLK	8.0"	ID K3-7	ID PB-1
8	18 AWG BLK	9.0"	ID RRTB-4A	ID TB4-401B
9	18 AWG BLK	9.0"	ID RRTB-5A	ID TB4-402B
10			RC1-1	K3-2 QUENCHARC-SLEEVE LEADS
11			RC1-2	K3-7 QUENCHARC-SLEEVE LEADS

G3	①	ASSY., PANEL FIREHOUSE PREEMPTOR
G1	①	ASSY., PANEL R/R PREEMPTOR
P1	NC	PANEL, R/R PREEMPTOR
G#’S/ P#’S REV.		DESCRIPTION
TOLERANCES UNLESS OTHERWISE SPECIFIED DECIMALS ± .03 ± .015 ANGLES ± 30'		MATERIAL: .125 THK AL 5052-H32 ALUM ALLOY FINISH:
DO NOT SCALE DRAWING		DATE 09-17-01
DRILLED HOLE		TITLE
.015 - .125 + .004 - .001 .126 - .250 + .005 - .001 .251 - .500 + .008 - .001 .501 - .750 + .008 - .001 .751 - 1.000 + .010 - .001 1.001 - 2.000 + .012 - .001		DRAWN: R.L. Madendon CHECKED: M. CHOU ENGINEER: L. FUSS APPROVED: L. FUSS DATE: 5-24-02 DATE: 5-24-02 DATE: 5-24-02
SCALE		3380 E. LA PALMA ANAHEIM, CALIFORNIA 92908
SHEET 1 of 3		DRAWING NO. 45120 REV H

① SEE BOM FOR REVISION.

NOTES: UNLESS OTHERWISE SPECIFIED



G3 WIRE LIST

ITEM#	WIRE	LENGTH	FROM/TERM	TO/TERM
1	18 AWG BLK	9.5"	ID FHTB-B1	ID K3-6
2	18 AWG GRY	13.5"	ID FHTB-B2	ID K3-8
3	18 AWG BLK	7.5"	ID FHTB-B3	ID F1-1
4	18 AWG WHT	3.0"	ID FHTB-B4	ID FHTB-B6
5	18 AWG WHT	10.5"	ID FHTB-B5	ID K3-2
6	18 AWG WHT	10.5"	ID FHTB-B6	ID PB-2
7	18 AWG BLK	8.0"	ID K3-7	ID F1-2
8	18 AWG WHT	9.0"	ID FHTB-4A	ID TB-401B
9	18 AWG WHT	9.0"	ID FHTB-5A	ID TB-402B
10			RC1-1	K3-2 QUENCHARC-SLEEVE LEADS
11			RC1-2	K3-7 QUENCHARC-SLEEVE LEADS
13	18 AWG WHT	10.5"	ID K3-2	ID PB-1

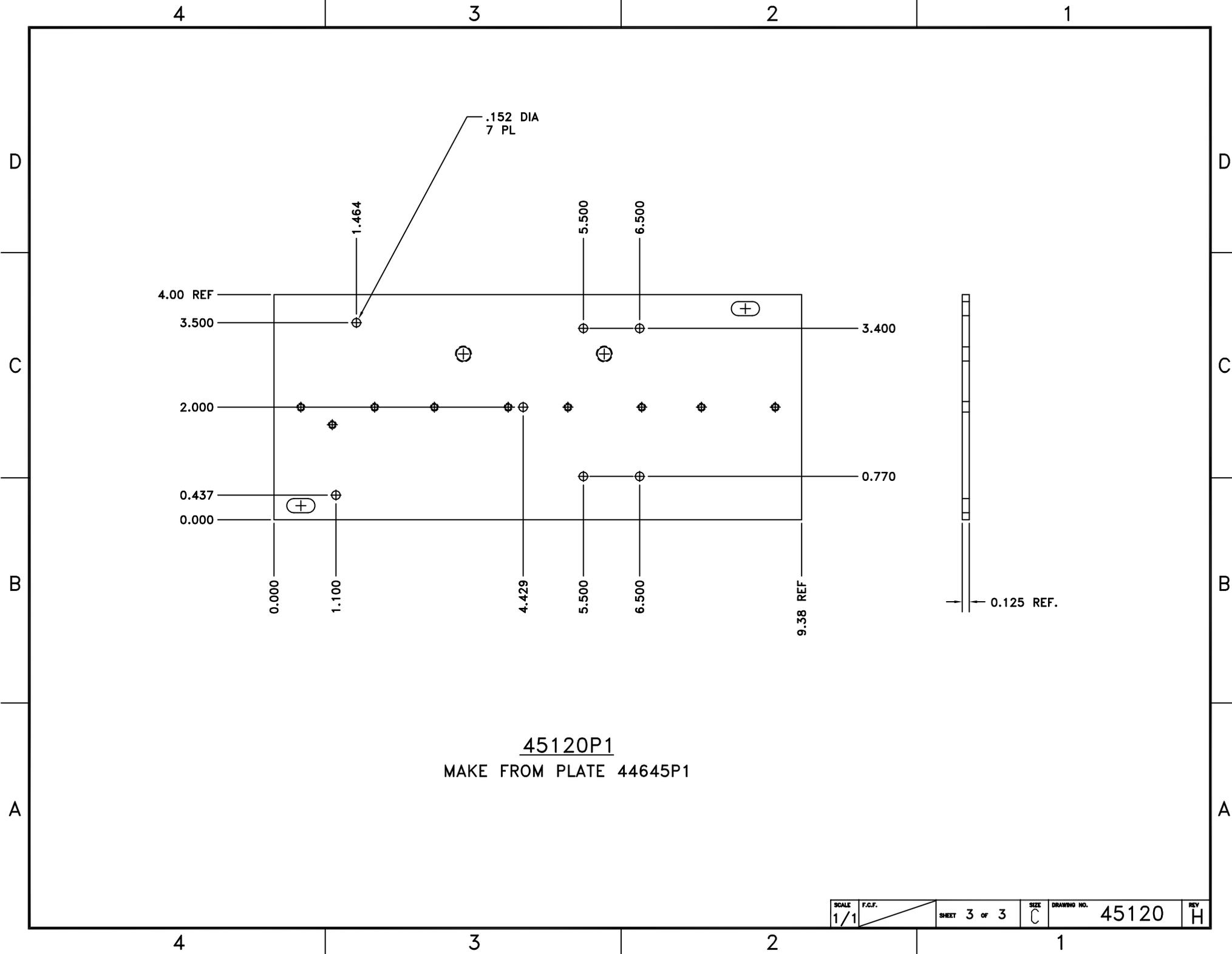


EXHIBIT B
TO
COOPERATIVE PURCHASING AGREEMENT
BETWEEN
THE TOWN OF FOUNTAIN HILLS
AND
ECONOLITE CONTROL PRODUCTS, INC.

[Materials Order(s)]

See following pages (to be attached subsequent to execution).