



**Traffic Operations**

## **APPROVED PRODUCTS LIST**

**TRAFFIC SIGNALS, HIGHWAY LIGHTING,  
AND HIGHWAY SIGNING EQUIPMENT**

# MISSOURI DEPARTMENT OF TRANSPORTATION

## APPROVED PRODUCTS LIST

### TRAFFIC SIGNALS AND HIGHWAY LIGHTING EQUIPMENT

#### I. GENERAL

This Approved Products List (APL) is based on equipment meeting department specifications and being tested for the specified test period with satisfactory performance. All models shall conform to the latest revision of the Missouri Standard Specifications for Highway Construction unless otherwise indicated. The models indicated on the list are approved, but are subject to final field inspection before acceptance.

The department frequently tests new products and equipment for traffic signals and highway lighting. These new products may be installed on a construction project, purchased on parts orders or with controller orders. Vendors may also submit a device, at no cost to the department, for the test period. MoDOT will determine the methods and needs of the product for test. Only a limited number of units will be accepted for test statewide until an item is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form - Signal and Lighting Equipment. Copies of this form can be obtained from our website at [www.modot.state.mo.us](http://www.modot.state.mo.us) or contact MoDOT Traffic Operations. Minor model changes do not require an evaluation period; however the vendor shall submit specification sheets and a sample of the product for the Department to inspect.

All equipment evaluations are coordinated through MoDOT Traffic Operations. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified in the APL. Products not performing satisfactorily or falls below established standards will be replaced with an approved product if the vendor cannot provide timely correction of the problem or if unsatisfactory operation of the intersection results.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Traffic Operations. If approved, the product may be tested for the specified period noted in the APL. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Any modification to the device must be reviewed and approved by MoDOT prior to sale/use of the modified device. Products will not be added to the Approved Products List that does not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include, but limited to:

- Significant change in product specifications or design without notification to the department.

- Failure to correct or replace products that are defective in manufacturing or workmanship.

- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.

- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.

- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However, the product will be removed from the list if it is not revised to meet specifications.

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## II. TRAFFIC SIGNAL EQUIPMENT

All traffic signal equipment requires a one-year evaluation period.

### CONTROLLERS

#### NEMA TS1 CONTROLLERS

#### MODEL

Econolite .....	ASC/2-2100
Econolite .....	ASC/2S-2100
Econolite .....	ASC/3-2100
Naztec .....	980
Peek .....	3000
Siemens .....	EPAC Genesis M40
Siemens .....	EPAC M42
Siemens .....	EPAC M52
Traffic Control Technologies (TCT) .....	LMD-8000

#### NEMA ON-STREET MASTER CONTROLLER

#### MODEL

Econolite .....	KMC-10,000
Econolite .....	ASC/2M
Siemens .....	MARC 360

#### SOLID STATE PRETIMED CONTROLLERS (ALL TYPES)

#### MODEL

Siemens .....	EPIC Series
Traffic Control Technologies (TCT) .....	LMD 40 Series

#### 170 CONTROLLERS

#### MODEL

McCain .....	170E
Phillips/Sisson Industries, Inc. ....	170E
Safetran .....	170E
Siemens .....	170E

### CABINETS AND BACK PANELS (NEMA & S.S. PRETIMED)

**NOTE: Cabinets and Back panels that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.**

#### NEMA CABINET AND BACK PANEL ASSEMBLIES

Control Technology  
Econolite  
Henke/Bison  
IDC/Gibbons  
Naztec P-44  
Eagle

# MISSOURI DEPARTMENT OF TRANSPORTATION

## APPROVED PRODUCTS LIST

### SOLID STATE PRETIMED CABINET AND BACK PANEL ASSEMBLIES

Eagle

### CABINETS AND RACKS (TYPE 170 CONTROLLERS)

**NOTE:** Cabinets and Racks that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

### 332 AND 336S CABINET AND RACK ASSEMBLIES

McCain  
Phillips/Sisson Industries, Inc.  
Safetran

### CONFLICT MONITORS

#### NEMA CONFLICT MONITORS

#### MODEL

Eberle Design Incorporated (EDI).....	NSM-6
Eberle Design Incorporated (EDI).....	NSM-12
Eberle Design Incorporated (EDI).....	SSM-12LE
Eberle Design Incorporated (EDI).....	MMU-16E
Eberle Design Incorporated (EDI).....	MMU-16LE
Naztec, Incorporated .....	NM512
Peek/Transyt.....	1200
Power Distribution & Control (PDC).....	CM82-03
Power Distribution & Control (PDC).....	CM82-06
Power Distribution & Control (PDC).....	CM82-12
Reno A&E .....	MMU-1600 Series
Solid State Devices.....	NM-6
Solid State Devices.....	NM-12
Solid State Devices.....	LCD-6P
Solid State Devices.....	LCD-12P
Traffic Control Technologies (TCT) .....	LNМ Series

#### 170 CONFLICT MONITORS

#### MODEL

Eberle Design Incorporated (EDI).....	210E
Reno A & E .....	2018
Solid State Devices.....	210P

### CABINET ACCESSORIES

#### AUXILIARY TIME CLOCK

#### MODEL

Eltec.....	NTC-17E
Eltec.....	TC-14
RTC.....	AP41

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## APPROVED PRODUCTS LIST

### EXTERNAL T.B.C. COORDINATORS MODEL

Eltec ..... TC-14

### FLASHERS MODEL (NEMA & 170)

Eberle Design Incorporated (EDI) ..... 810  
 Power Distribution & Control (PDC) ..... SSF-86  
 Power Distribution & Control (PDC) ..... SSF-88  
 Reno A & E ..... FL-200  
 Traffic Sensor Corp ..... 204  
 Traffic Sensor Corp ..... 204-15  
 Traffic Sensor Corp ..... 304  
 Traffic Sensor Corp ..... 304-15

### FLASH TRANSFER RELAYS MODEL

AMECO ..... 136-4962  
 Struthers-Dunn ..... 21ACPX-2/21ACPXD-5  
 Mid-Tex ..... 136-62T-3A1  
 Power Distribution & Control (PDC) ..... FTR 91  
 Reno ..... TR-200

### LOAD SWITCHES MODEL (NEMA & 170)

Eberle Design Incorporated (EDI) ..... 510  
 Power Distribution & Control (PDC) ..... SSS-86  
 Power Distribution & Control (PDC) ..... SSS-88  
 Reno A & E ..... LS-200  
 Traffic Control Technologies (TCT) ..... SSS-86  
 Traffic Sensor Corp ..... 200  
 Traffic Sensor Corp ..... 200-15  
 Traffic Sensor Corp ..... 300  
 Traffic Sensor Corp ..... 300-15

### ISOLATORS (170 only) MODEL (242=DC, 252=AC)

Eberle Design Incorporated ..... 242  
 GDI ..... 242  
 GDI ..... 252  
 Power Distribution & Control (PDC) ..... 242  
 Power Distribution & Control (PDC) ..... 252  
 RENO A&E ..... 242 = DC (2 Channel)  
 Safetran ..... 242  
 Safetran ..... 252

# MISSOURI DEPARTMENT OF TRANSPORTATION

## APPROVED PRODUCTS LIST

### **SURGE PROTECTORS**

### **MODEL**

Emerson Network Power .....Edco SHA-1250

### **TONE RECEIVERS**

### **MODEL**

Iniven .....IR30M-05-30

### **TONE TRANSMITTERS**

### **MODEL**

Iniven .....IT30

## **DETECTORS**

### **MICROWAVE DETECTORS**

### **MODEL**

Microwave Sensors.....TC-26B  
Electronic Integrated Systems, Inc. (EIS) .....RTMS X-2

### **MICROLOOP, PROBE**

### **MODEL**

3M .....Canoga 701

### **PEDESTRIAN PUSH BUTTONS**

### **MODEL**

Campbell.....4 EVR 120  
Polara Engineering, Inc. ....BDSP-010-B

### **POWER SUPPLY FOR CARD RACK DETECTORS - NEMA**

### **MODEL**

ICC.....PS24  
PGK .....PS-1.2

### **SINGLE CHANNEL SHELF MOUNT DETECTORS, STANDARD**

### **MODEL**

Eberle Design Incorporated (EDI).....LMD301S  
Sarasota.....535B/MS

### **SINGLE CHANNEL SHELF MOUNT DETECTORS, TIME DELAY**

### **MODEL**

Eberle Design Incorporated (EDI).....LMD301T  
Sarasota.....535T/MS

### **ULTRASONIC DETECTORS**

### **MODEL**

Microwave Sensors.....TC-30

### **2-CHANNEL CARD RACK COUNTING DETECTORS, DUAL OUTPUT**

Eberle Design Incorporated (EDI).....LMD632

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## 2-CHANNEL CARD RACK COUNTING DETECTORS, SINGLE OUTPUT PULSE MODE (NEMA)

### MODEL

Eberle Design Incorporated (EDI).....	LMD632T
ICC.....	S27B
Reno A & E .....	C

## 2-CHANNEL CARD RACK DETECTORS, STANDARD .....MODEL (170)

Eberle Design Incorporated (EDI).....	LM222
Eberle Design Incorporated (EDI).....	LMD222
Reno A & E .....	222
Sarasota.....	222-GP5
Sarasota.....	222 GP6

## 2-CHANNEL CARD RACK DETECTORS, STANDARD (NEMA)

### MODEL

Eberle Design Incorporated (EDI).....	LMD602R
ICC.....	S27B
Reno A & E .....	C
Reno A & E .....	G

## 2-CHANNEL CARD RACK DETECTORS, TIME DELAY .....MODEL (NEMA)

Eberle Design Incorporated (EDI).....	LMD602TR
Reno A & E .....	C
Reno A & E .....	GT

## SIGNAL HEADS

### BACKPLATES

### MODEL

Chapel Hill .....	44xx Series
Intelight .....	BP INTLIT Series
Pelco.....	BK-100x Series
Neodesia Plastics .....	BP Series

## HARDWARE

**NOTE:** Hardware that meets MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide equipment that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Pelco	
Reliable 3/8" Strandvise .....	5202

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Reliable ¼" Strandvise .....5200

## LOUVERS MODEL

Pelco.....GPL

## POLYCARBONATE SIDE-MOUNT BRACKETS MODEL WITH RELATED HARDWARE

Component Products.....Any  
Eagle .....UKS1452AB

## SIGNAL HEADS - OPTICALLY LIMITED MODEL

Intelight, Inc. ....ESB Series  
McCain .....HPTS Series

## SIGNAL HEADS - POLY CONVENTIONAL MODEL

Chapel Hill .....SIG-TPB-305-CTN-NVN-0N (3 section)  
Chapel Hill .....SIG-TPB-586-CTN-NVN-0N (5 section)  
Eagle .....SA Series  
Econolite.....TP Series  
General Traffic Equipment Corp.....T-30 POLY  
IDC/Safetrans .....LT Series  
McCain .....MTSTP Series  
Traffic Control Technologies (TCT).....PSS Series

## PEDESTRIAN HEAD – POLY 1-SECTION MODEL

McCain .....M32258

## PEDESTRIAN LED SIGNAL INDICATION MODEL

Pedestrian LED signal indications must be ETL verified. The ETL verified listing is located at [Intertek ETL Verified Listing - Link located at: http://www.intertek.com/lighting/infrastructure/traffic-signals/](http://www.intertek.com/lighting/infrastructure/traffic-signals/)

## POSTS AND MAST ARMS

***Note: Posts and Mast Arms do not require an evaluation period. Posts and Mast Arms shall be fabricated in accordance with MoDOT specifications and standards. Posts and Mast Arms shall be pre-approved as required by the MoDOT standards and specifications to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Posts and Mast Arms are subject to field inspection before acceptance.***

## STEEL POSTS AND MAST ARMS DRAWING NUMBER

Ameron International.....MO9811 - Rev. 9 (Type C)  
Ameron International.....MO9812 - Rev. 10 (Type CL)  
JEM Engineering & Manufacturing.....MODOT1-4 Rev. 2 (Types C, CL, B & BL)



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## APPROVED PRODUCTS LIST

Maico Industries, Inc. ....	MOMAST 1-5A Rev. 1-6 (Types C, CL, B & BL)
Millerbernd Manufacturing Company .....	780C388 (Type B)
Millerbernd Manufacturing Company .....	780C389 (Type BL)
Millerbernd Manufacturing Company .....	780C49 (Type C)
Millerbernd Manufacturing Company .....	780C51 (Type CL)
Millerbernd Manufacturing Company .....	500A971
Pelco Structural, LLC .....	MODMA1001 & 1002 (Type B)
Pelco Structural, LLC .....	MODMAL1001 & 1002 (Type BL)
Pelco Structural, LLC .....	MOSMA1001 & 1002 (Type C)
Pelco Structural, LLC .....	MOSMAL1001 & 1002 (Type CL)
Union Metals.....	30443-B202 - Rev. 19 (Types C, CL, B & BL)
Valmont .....	DB00408 - Rev. H (Types B, BL, C, & CL)

### MISCELLANEOUS

#### **LOOP SEALANTS**

#### **MODEL**

(Loop sealants do not require material certification)

3M.....	5000
Bondo .....	575
Bondo .....	P606
Chemque .....	290S
Chemque .....	296-06
Durant Paints.....	Stat-A-Flex Polyseal
RAI Products .....	Pro-Seal 6006

#### **PEDESTAL BASES**

#### **MODEL**

Akron Foundry .....	TS-1000-L-P
Akron Foundry .....	TS-1000-L-WP
Component Products.....	CPI-BAS-1
Pelco.....	PB5336
Pelco.....	PB5337
Pelco.....	PB5340
Pelco.....	PB5341
Traffic Parts .....	TP 289 X

#### **SPLICE KITS (DETECTOR LEAD-IN)**

#### **MODEL**

3M.....	DBY Series
HOMAC HMC Industries .....	RAB 1/0 Series

#### **METER SERVICE PEDESTAL (SIGNALS/SIGNALS & LIGHTING) MODEL**

Milbank 120V Signal Only .....	CP3B51C1PAAOMO1
Milbank 120V Signal with 2 –Circuit 240V Lighting.....	CP3B51C1PBAOMO2
Milbank 120V Signal with 2-Circuit 240V Lighting Dual Meter.....	CP3B62C2NBAOMO1
Myers 120V Signal with 2-Circuit 240V Lighting .....	MEUGLA-M100-MDOT
Myers 120V Signal with 2-Circuit 240V Lighting .....	MEUG 20
Pacific Utility Products 120V Signal Only.....	USP16-M2100-112C-MODOT6-TS

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Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USPAR-100-100-MODOT

*Note: -- (Pacific Utility Products - product listed with "R" is ring less meter sockets, other utilities requiring ring type meter socket, have the "6" at the end of the catalog number)*

Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USP16R-M2100-112C-MODOT

*Note: -- (Pacific Utility Products - product listed with "R" is ring less meter sockets, other utilities requiring ring type meter socket, have the "6" at the end of the catalog number)*

Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USP24-M2100-100-MODOT6-TSL

Pacific Utility Products 120V Sgnl w/2-Circuit 240V Lighting Dual Mtr USPD-2M2100-100-MODOT6

Tesco 120V Signal with 2-Circuit 240V Lighting .....28-105 Type III BF

Tesco 120V Signal with 2-Circuit 240V Lighting .....28-102F

### **LIGHT EMITTING DIODES (LED)**

LED's (circular and arrow) must be ETL verified. The ETL verified listing is located at [Intertek ETL Verified Listing - Link located at: http://www.intertek.com/lighting/infrastructure/traffic-signals/](http://www.intertek.com/lighting/infrastructure/traffic-signals/Intertek%20ETL%20Verified%20Listing%20-%20Link%20located%20at%3A%20http%3A%2F%2Fwww.intertek.com%2Flighting%2Finfrastructure%2Ftraffic-signals%2F)

#### **PROGRAMMABLE VIEW**

#### **MODEL**

Dialight.....	P463R33003 (Red Ball)
Dialight.....	P463Y33003 (Yellow Ball)
Dialight.....	P463G33003 (Green Ball)
GELcore .....	DR3-RCFB-01A (Red Ball)
GELcore .....	DR3-YCFB-01A (Yellow Ball)
GELcore .....	DR3-GCFB-01A (Green Ball)

### **VIDEO DETECTION SYSTEMS**

#### **VIDEO DETECTOR**

#### **MODEL**

Aldis.....	GridSmart
Econolite.....	Autoscope 2020
Econolite.....	Autoscope RackVision
Econolite.....	Autoscope RackVision Terra
Econolite.....	Autoscope Solo Terra
Iteris.....	Vantage Edge2
Peek Traffic Corp.....	VideoTrak IQ-P
Peek Traffic Corp.....	VideoTrak IQ-ITS

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## III. HIGHWAY LIGHTING

All highway lighting equipment require a one-year evaluation period except for items noted requiring a six-month evaluation.

### LIGHTING POLES

***Note: Poles do not require an evaluation period. Poles shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Lighting poles are subject to field inspection before acceptance.***

#### STEEL POLES

#### DRAWING NUMBER

Ameron International .....	MO98AT3 – Rev. 4 (Type AT45) Design 1 & 2
Ameron International .....	MO98AT2 – Rev. 4 (Type AT45) Design 3, 4 & 5
Ameron International .....	MO98AT4 – Rev. 3 (Type AT30)
Ameron International .....	MO98B2 – Rev. 3 (Type B45 & MB45)
Ameron International .....	MO98B4 – Rev. 2 (Type B30)
JEM Engineering and Manufacturing .....	MO-AT30 – Rev. 3 (Type AT30)
JEM Engineering and Manufacturing .....	MO-AT45 – Rev. 3 (Type AT45)
Millerbernd Manufacturing Co. ....	730B907 (Type AT30)
Millerbernd Manufacturing Co. ....	730B653 (Type AT45)
Millerbernd Manufacturing Co. ....	730B908 (Type B30)
Millerbernd Manufacturing Co. ....	730B909 (Type B45)
Millerbernd Manufacturing Co. ....	730B910 (Type MB45)
Union Metals.....	71020-B2 - Rev. 5 (Type AT30)
Union Metals.....	71020-B3 - Rev. 4 (Type B30)
Union Metals.....	71019-B6 - Rev. 7 (Type AT45)
Union Metals.....	71019-B7 - Rev. 4 (Types B45 & MB45)
Union Metals.....	71019-B8 – Rev. 3 (Type B30)
Union Metals.....	71019-B9 – Rev. 3 (Type B45)
Union Metals.....	71019-B10 – Rev. 3 (Type MB45)
Union Metals.....	71020-B103 – Rev. 3 (Type AT30)
Union Metals.....	71020-B104 – Rev. 4 (Type AT45)
Valmont .....	DB00019 – Rev. N (Types AT30 & B30)
Valmont .....	DB00020 – Rev. N (Types AT45, B45 & MB45)

#### ALUMINUM POLES

Valmont .....	MO-051707 (Type AT-30)
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# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## FOUNDATIONS

***Note: Screw anchor foundations do not require an evaluation period. Screw anchor foundations shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Screw anchor foundations are subject to field inspection before acceptance.***

### **SCREW ANCHOR FOUNDATIONS**

### **DRAWING NUMBER**

Component Products, Inc. ....	SLSF 8-5 (Type AT30)
Component Products, Inc. ....	SLSF 10-7 (Type AT45)
Hubbell Chance .....	SA112-0696 – Rev. H (Type AT30)
Hubbell Chance .....	SA112-0786 – Rev. E (Type AT45)
Integrated Traffic Solutions, Inc. ....	ITS AT30 (Type AT30)
Integrated Traffic Solutions, Inc. ....	ITS AT45 (Type AT45)
J. H. Botts .....	JHB MOH 30 – Rev. C (Type AT30)
J. H. Botts .....	JHB MOH 45 – Rev. D (Type AT45)

## LUMINAIRES

***NOTE: Luminaires will not be furnished with photoelectric cells. Receptacles will have a shorting plug in place of cell. Multi-tap ballast for 120 Volt and 240 Volt fixtures is permissible.***

### **BRACKET ARM MOUNT - 150 WATT**

### **MODEL**

American Electric Lighting .....	115 Series
American Electric Lighting .....	Durastar 2000, Series 30
Crouse-Hinds/Cooper .....	OVZ Series
Crouse-Hinds/Cooper .....	OVX Series
General Electric (GE).....	M2RR Series
Holophane.....	Mongoose Series

### **BRACKET ARM MOUNT - 250 WATT**

### **MODEL**

American Electric Lighting .....	115 Series
American Electric Lighting .....	Durastar 2000, Series 30
Crouse-Hinds/Cooper .....	OVZ Series
Crouse-Hinds/Cooper .....	OVX Series
General Electric (GE).....	MSRL Series
Holophane.....	Mongoose Series

### **BRACKET ARM MOUNT - 400 WATT**

### **MODEL**

American Electric Lighting .....	125 Series
American Electric Lighting .....	Durastar 2000, Series 30
Crouse-Hinds/Cooper .....	OVX Series
General Electric (GE).....	MSRL Series
Holophane.....	Mongoose Series

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## HIGH MAST LIGHTING

## MODEL

**NOTE:** *High mast lighting is custom designed for the location. Fixtures from the following manufacturer's series are considered pre-approved.*

Cooper .....	HMC Series
General Electric (GE).....	HMA Series
Holophane.....	HMAO Series
Holophane.....	HMS Series
Metrolux .....	VA Series

## POLE TOP MOUNTING

## MODEL

Holophane.....	HL2A Series
Holophane.....	Mongoose Series

## SIGN LIGHTING - 250 WATT

## MODEL

General Electric (GE).....	V2FN Series
Guth .....	B17632 Series
Holophane.....	PANL Series
Holophane.....	SNVW Series

## SIGN LIGHTING - 400 WATT

## MODEL

Holophane.....	PANL Series
Holophane.....	SNVW Series

## UNDERPASS (WALLPACKS)

## MODEL

American Electric Lighting .....	582 Series
Cooper .....	WPK Series
General Electric (GE).....	WAL Series
Holophane.....	MDWP Series
Holophane.....	WL2K Series
Hubbell .....	PGM-150S Series

## CONTROL EQUIPMENT

### CONTACTORS-ELECTROMECHANICAL

### MODEL

Square D.....	Type S
Westinghouse/Cutler-Hammer .....	A202 Series

### CONTACTORS-MERCURY

### MODEL

Dayton/Duracool .....	6A/6X Series
Magnecraft .....	WM Series

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## BASE MOUNTED CONTROL CABINETS

**NOTE:** Cabinets that meet MoDOT specifications from the following manufacturers will be accepted. All other manufacturers must provide a model that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Cleveland Switchboard  
Coxline  
Hoffman  
Shallbetter  
Inland Technologies

## MOUNTING SOCKET FOR PHOTOELECTRIC CONTROL.....MODEL

**NOTE:** Mounting sockets require a six-month evaluation.

American Electric Lighting .....	DUR
Fischer-Pierce.....	S476-71
General Electric (GE).....	MB-PECTL

## PHOTOELECTRIC CONTROL

## MODEL

Area Lighting Research .....	SST-120 (120 volt)
Area Lighting Research .....	SST-240 (240 volt)
Area Lighting Research .....	SST-PV (120/240 volt)
American Electric Lighting .....	D120-1.0-STJ (Dark to Light) (120 volt)
American Electric Lighting .....	D124-1.0-STJ (120/240 volt)
American Electric Lighting .....	D240-1.0-STJ (240 volt)
American Electric Lighting .....	DE480-1.0-TJ (480 volt)
Fischer-Pierce.....	FPN7790B (105 – 285 volt)
Fischer-Pierce.....	FPN7772 (195 – 305 volt)
Fischer-Pierce.....	FPN7794 (480 volt)
Fischer-Pierce.....	FPN7760 (120 volt)
General Electric (GE).....	PEC01TL (>120v/< 305v w/ time delay)
General Electric (GE).....	PEC1TL (120v)
General Electric (GE).....	PEC5TL (480v)
ITT .....	SAT-15
Tyco .....	6190 VPS

## TYPE A CIRCUIT BREAKERS

## MODEL

Square D.....	FAL Series
Westinghouse/Cutler-Hammer .....	EHD Series (1-Pole)
Westinghouse/Cutler-Hammer .....	FDB Series (2-Pole)

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## MISCELLANEOUS

### AVIATION LIGHTING MODEL

Hughey & Philips.....KG114

### FUSED SLIP CONNECTORS MODEL

**NOTE: Slip connectors require a six-month evaluation.**

Buss .....HEB-JWRYC  
IDEAL .....30-S2212

### METER SERVICE PEDESTAL (LIGHTING) MODEL

Milbank 4-Circuit 240V Lighting .....CP3B51C1PBAOMO3  
Milbank 4-Circuit 480V Lighting .....CP3B51D1PBAOMO1  
Milbank 4-Circuit 480V Lighting (used for Ameren cold sequence) .....CP3B51D1PBAOMOCS1  
Pacific Utility Products 4-Circuit 240V Lighting.....USP24-M2100-100-MODOT6  
Pacific Utility Products 4-Circuit 480V Lighting.....USP16-M2100-100-MODOT  
Pacific Utility Products 4-Circuit 480V Lighting.....USP24-M2100-100-MODOT6-480

### NAVIGATION LIGHTING MODEL

Tideland .....ML-140 with TF-3AC Lamp Changer  
Automatic Power, Inc. ....FA-143

### SPLICE KITS MODEL

3M .....82A1 (Single)  
3M .....82A2 (Single)  
3M .....82B1 (Three Way)  
3M .....82B2 (Three Way)  
HOMAC HMC Industries.....RAB 1/0 Series

### TRANSFORMER BASES MODEL

Akron Foundry .....TB1-17H (for AT30)  
Akron Foundry .....TB3-17H (for AT45)

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## IV. POWER SUPPLY EQUIPMENT AND PULL BOXES

All items require a six-month evaluation period.

### MAIN SERVICE DISCONNECT ENCLOSURE WITH SAFETY SWITCH (NEMA 4)

#### MODEL

General Electric (GE).....	TE 100 CS
Square D.....	FA-100-DS Series E2
Westinghouse .....	WFDN 100

### PREFORMED PULL BOX-CLASS 1

#### MODEL

Straight	
Armorcast Products Company .....	A6001640TAPCX22 (Box & Lid)
Carson Industries .....	H1730-24 (Box)
CDR .....	A14-1730 series-22" (Box & Lid)
Composite Industries .....	CI183024PB1P
Highline .....	PHA173024HO1R
.....	H1730-PI (Lid)
Martin Enterprises.....	173022PC
Strongwell/Quazite.....	PG1730B532 (Box)
	PG1730H511 (Lid)
	PG1730BA Series
Synertech.....	S1730B24AA (Box)
	S1730HBB0A (Lid)
Flared	
Armorcast Products Company .....	A6001640TAX24 (Box & Lid)
CDR .....	A12-1730 series-22" (Box & Lid)
Highline .....	CHA173024HO1R
Martin Enterprises.....	1730/22 FRP
NewBasis .....	FCA173022CC4126-62 (Box & Lid)
NewBasis .....	FCA173022CC4749-61 (Box & Lid)
NewBasis .....	FCA173024T Series (Box & Lid)
Pencell Plastics.....	PEM-1830-PCX (Box & Lid)

### PREFORMED PULL BOX-CLASS 2

#### MODEL

Straight	
Armorcast Products Company .....	A6001974TAPCX26 (Box & Lid)
Armorcast Products Company .....	A6001974TAPCX24
Carson Industries.....	H2436-24 (Box)
.....	H2436-PI (Lid)
CDR .....	A14-2436 series-24" (Box & Lid)
Composite Industries .....	CI243624PB1P
Highline .....	PHA243624HO1R
Martin Enterprises.....	243624PC
Strongwell/Quazite.....	PG2436B539 (Box)
	PG2436H508 (Lid)
	PG2436BA Series
Synertech.....	S2436B26AA (Box)
	S2436HCB0A (Lid)



# MISSOURI DEPARTMENT OF TRANSPORTATION

## APPROVED PRODUCTS LIST

### **PREFORMED PULL BOX-CLASS 2**

### **MODEL**

Flared	
Armorcast Products Company .....	A6001974TAX26 (Box & Lid)
Armorcast Products Company .....	A6001974TAX24
CDR .....	A12-2436 series-24" (Box & Lid)
Highline .....	CHA243624HO1R
Martin Enterprises .....	2436/24 FRP
NewBasis .....	FCA243630CC4126-61 (Box & Lid)
NewBasis .....	FCA243630CC4749-61 (Box & Lid)
NewBasis .....	FCA243624T Series (Box & Lid)
Pencell Plastics .....	PEM-2436-36 (Box & Lid)
Pencell Plastics .....	PEM-2436-PCX-24 (Box & Lid)
Synertech .....	S2436B24AA (Box)
.....	S2436HCB0A (Lid)

### **PREFORMED PULL BOX-CLASS 3**

### **MODEL**

Straight	
Armorcast Products Company .....	A6001430TAPCX36 (Box & Lid)
Carson Industries .....	H3048-36 (Box)
.....	H3048-P1 (Lid)
CDR .....	A14-3048 series-36" (Box & Lid)
Composite Industries .....	CI304836PB1P
Highline .....	PHA304836HO1R
Martin Enterprises .....	304836PC
Strongwell/Quazite .....	PG3048B560 (Box)
	PG3048H517 (Lid)
	PG3048BA Series
Synertech .....	S3048B36AA (Box)
	S3048HCB0A (Lid)
Flared	
Armorcast Products Company .....	A6001550TAX36 (Box & Lid)
CDR .....	A12-3048-series 36" (Box & Lid)
Highline .....	CHA304836HO1R
Martin Enterprises .....	3048/36 FRP
NewBasis .....	FCA304836EE4749-61 (Box & Lid)
NewBasis .....	FCA304836T Series (Box & Lid)
Pencell Plastics .....	PEM-3048-36-PCX-SPLIT (Box & Lid)

### **PREFORMED PULL BOX-CLASS 5**

### **MODEL**

Flared	
Armorcast Products Company .....	A6001466TA (Box & Lid)
Armorcast Products Company .....	A6000172TAX36 (Box & Lid)
CDR .....	A12-3200 series-36" (Box & Lid)
Highline Products .....	CRA3236H01
Martin Enterprises .....	320036 FRP
NewBasis .....	FCA320036T Series
NewBasis .....	FCA540036C4800 (Box & Lid)
NewBasis .....	FCA540036C40336 (Box & Lid)
NewBasis .....	FCA540036-MODOT
Quazite .....	PR3944Z504

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## HIGHWAY SIGNING EQUIPMENT

### V. GENERAL

This Approved Products List (APL) for highway signing equipment contains current pre-approved products for highway signing. This list is applicable to department purchases and construction contracts. The list includes products that have been approved for use based on satisfactory performance during a specified test period. Products listed have undergone sufficient field testing to be considered acceptable for use at any time. All field tests of new products or pending products should be arranged with Central Office Traffic.

The department frequently tests new products and equipment for highway signing. These new products may be installed on a construction project or used for normal department installations and maintenance. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until the product is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form. Copies of this form can be obtained from our website at [www.modot.state.mo.us](http://www.modot.state.mo.us) or contact MoDOT Central Office Traffic. Minor model changes of previously approved products do not require a new evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect. Any modifications determined to potentially alter the performance of the product may require the product to undergo additional field testing and evaluation.

All product evaluations are coordinated through MoDOT Central Office Traffic. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified by Central Office Traffic (typically one year). Products that are not performing satisfactorily will be left off of the list. Products that were previously approved that begin to perform unsatisfactorily will be removed or replaced with an approved product if the vendor cannot provide timely correction of the problem.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Central Office Traffic. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that does not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.
- Failure to correct or replace products that are defective in manufacturing or workmanship.
- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.
- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.
- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will eventually be removed from the list if it is not revised to meet specifications.

# MISSOURI DEPARTMENT OF TRANSPORTATION

## APPROVED PRODUCTS LIST

### VI. HIGHWAY SIGNING EQUIPMENT

#### **BREAKAWAY DEVICES**

<b>MANUFACTURER</b>	<b>DESCRIPTION, MODEL</b>
Ultimate Highway Products .....	Triangular Slip Base for 2.5" PSST, Slip-Mate
Xcessories Squared .....	Kleen Break 425 for 2" PSST, XKB42520-G
Xcessories Squared .....	Kleen Break Surface Mount 425 for 2" PSST, XKBSM42520-G
Xcessories Squared .....	Redi-Torque 280 for 2.5" PSST, SB8C-250A-G
Xcessories Squared .....	Redi-Torque 280 Pre-Assembled Slip Base for 2.5" PSST, RT8UX-25C25-G
Xcessories Squared .....	Redi-Torque Triangular Surface Mount Base, SMSB9-10-G
Xcessories Squared .....	Redi-Torque Bolt Kit, RTSB-MPHDW
Northwest Pipe Company .....	S-Q 8" Square Slipbase for 2.5" PSST, 31209
Designovations, Inc .....	Snap n Safe S200 and S200S (2")
Designovations, Inc .....	Snap n Safe S250 and S250 S (2.5")
Dent Breakaway Industries, Inc .....	3/4" Dent Bolt, #6882
Dent Breakaway Industries, Inc .....	5/8" Dent Bolt, #6878
Dent Breakaway Industries, Inc .....	1/2" Dent Bolt, #6874
Dent Breakaway Industries, Inc .....	5/8" Ground Anchors (Galvanized)
Dent Breakaway Industries, Inc .....	5/8" Modified Dent Bolt, #6220
Dent Breakaway Industries, Inc .....	3/4" Modified Dent Bolt, #6882

#### **FOUNDATIONS/ANCHORS**

<b>MANUFACTURER</b>	<b>DESCRIPTION, MODEL</b>
None .....	None

#### **SIGN HARDWARE**

<b>MANUFACTURER</b>	<b>DESCRIPTION, MODEL</b>
Xcessories Squared .....	Aluminum Post Clamp for 2.5" Pipe, XAPC278RD
Xcessories Squared .....	Aluminum Post Clamp for 3" Pipe, XAPC350RD
Xcessories Squared .....	Aluminum Post Clamp for 4" Pipe, XAPC450RD
Xcessories Squared .....	Aluminum Bar for Post Clamps, XAB750
Xcessories Squared .....	Aluminum Sign Backer Bar, ASB200P1
Xcessories Squared .....	Extruded Panel Clamp for 2" PSST, EPPCS200SQ
Xcessories Squared .....	Extruded Panel Clamp for 2.5" PSST, EPPCS250SQ
Xcessories Squared .....	Extruded Panel Clamp for 2.5" Pipe, EPPCS250RD
Xcessories Squared .....	Extruded Panel Clamp for 3" Pipe, EPPCS300RD
Xcessories Squared .....	Extruded Panel Clamp for 4" Pipe, EPPCS400RD
Xcessories Squared .....	Extruded Panel Clamp for 4x4 Wood, EPPCS44W
Xcessories Squared .....	Extruded Panel Clamp for 4x6 Wood, EPPCS46W

**MISSOURI DEPARTMENT OF TRANSPORTATION  
APPROVED PRODUCTS LIST**

Xcessories Squared.....Extruded Panel Clamp for 6x6 Wood, EPPCS66W

**SIGNS**

MANUFACTURER	DESCRIPTION, MODEL
Tapco .....	Blinkersigns

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## TRAFFIC SIGNALS AND HIGHWAY LIGHTING EQUIPMENT

### **ADDED:**

**FUSED SLIP CONNECTORS**  
IDEAL

**MODEL**  
30-S2212

**ISOLATORS (170 only)**  
**(242=DC, 252=AC)**

**MODEL**

RENO A&E .....242 – DC (2 Channel)

**PERFORMED PULL BOX-CLASS 1**  
**Flared**

**MODEL**

Martin Enterprises.....1730/22 FRP

**PERFORMED PULL BOX-CLASS 2**  
**Flared**

**MODEL**

Martin Enterprises.....2436/24 FRP

**PERFORMED PULL BOX-CLASS 3**  
**Flared**

**MODEL**

Martin Enterprises.....3048/36 FRP

**PERFORMED PULL BOX-CLASS 5**  
**Flared**

**MODEL**

Martin Enterprises .....320036 FRP

**VIDEO DETECTION SYSTEMS**  
**VIDEO DETECTOR**

**MODEL**

Aldis.....GridSmart  
Peek Traffic Corp .....VideoTrak IQ-P  
Peek Traffic Corp .....VideoTrak IQ-ITS

### **DELETED:**

**2-CHANNEL CARD RACK DETECTORS, TIME DELAY .....MODEL**  
**(NEMA)**

3M .....Canoga C800 Series  
*(This product is no longer manufactured per Global Traffic Technologies, LLC – 5/21/2015)*

**LOOP SEALANTS**  
Bondo .....

**MODEL**  
560

**SURGE PROTECTORS**

**MODEL**

Emerson Network Power .....SHA 1210

# MISSOURI DEPARTMENT OF TRANSPORTATION APPROVED PRODUCTS LIST

## VIDEO DETECTION SYSTEMS

### VIDEO DETECTOR

### MODEL

Traficon.....VIP 3D.1  
(July 2015)

Traficon.....VIP 3D.2  
(July 2015)

## REVISED:

## CABINETS AND BACK PANELS (NEMA & S.S. PRETIMED)

**NOTE: Cabinets and Back panels that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.**

### NEMA CABINET AND BACK PANEL ASSEMBLIES

Control Technology  
Econolite  
Henke/Bison  
IDC/Gibbons  
Naztec P-44  
~~Siemens~~

Changed to (June 2014 – to the recent ownership of Brown Traffic acquiring and marketing under the brand name of “Eagle”)  
Eagle

## METER SERVICE PEDESTAL (SIGNALS/SIGNALS & LIGHTING) MODEL

Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USPA-100-100-MODOT  
Changed to (April 2015)

Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USPAR-100-100-MODOT

Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USP16-M2100-112C-MODOT  
Changed to (April 2015)

Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting .....USP16R-M2100-112C-MODOT

## METER SERVICE PEDESTAL (LIGHTING) MODEL

Pacific Utility Products 4-Circuit 480V Lighting .....USP16-M2100-112C-MODOT  
Changed to (April 2015)

Pacific Utility Products 4-Circuit 480V Lighting .....USP16-M2100-100-MODOT

## MOUNTING SOCKET FOR PHOTOELECTRIC CONTROL MODEL

**NOTE: Mounting sockets require a six-month evaluation.**

American Electric Lighting .....PBC  
Changed to (April 2013)

American Electric Lighting .....DUR

# MISSOURI DEPARTMENT OF TRANSPORTATION

## APPROVED PRODUCTS LIST

### **SCREW ANCHOR FOUNDATIONS**

### **DRAWING NUMBER**

Hubbell Chance .....	SA112-0696 – Rev. G (Type AT30)
Changed to <i>(November 2013)</i>	
Hubbell Chance .....	SA112-0696 – Rev. H (Type AT30)
Hubbell Chance .....	SA112-0786 – Rev. D (Type AT45)
Changed to <i>(November 2013)</i>	
Hubbell Chance .....	SA112-0786 – Rev. E (Type AT45)

### **REVISED:**

### **SOLID STATE PRETIMED CABINET AND BACK PANEL ASSEMBLIES**

Siemens  
    Changed to *(June 2014 – to the recent ownership of Brown Traffic acquiring and marketing under the brand name of “Eagle”.)*  
Eagle

### **STEEL POSTS AND MAST ARMS**

Valmont.....	DB00408 – Rev. C (Types C, CL, B & BL)
Changed to	
Valmont.....	DB00408 – Rev. G (Types C, CL, B & BL)
Changed to <i>(revised 10/18/13)</i>	
Valmont.....	DB00408 – Rev. H (Types B, BL, C & CL)

### **SURGE PROTECTORS**

### **MODEL**

Emerson Network Power .....	1250
Changed to	
Emerson Network Power .....	Edco SHA-1250

## HIGHWAY SIGNING EQUIPMENT

### **ADDED:**

### **BREAKAWAY DEVICES**

### **MANUFACTURER**

### **DESCRIPTION, MODEL**

Designovations, Inc.....	Snap n Safe S200 and S200S (2”) (January 2014)
Xcessories Squared.....	Kleen Break Surface Mount 425 for 2” PSST, XKBSM42520-G (December 2013)
Xcessories Squared.....	Redi-Torque 280 Pre-Assembled Slip Base for 2.5” PSST, RT8UX-25C25-G (December 2013)
Xcessories Squared.....	Redi-Torque Triangular Surface Mount Base, SMSB9-10-G (December, 2013)