



Division of Design and Construction
590 University Avenue
P.O. Box 758160
Fairbanks, Alaska 99775-8160
Ph: (907) 474-5299 Fx: (907) 474-7554

TV654

LETTER OF TRANSMITTAL

To: Karl Bergman Date: November 22, 2013
Attn: _____
Subject: 2013190 CTCPR
Subject: CTC Parking Garage Renovations

We are transmitting the following: ☒ Attached ☐ Under Separate Cover

COPIES	DESCRIPTION
2	Electrical Submittal Binder
2	Electrical O & M Binder

These are transmitted:

☐ For your approval ☐ As requested ☒ For your review and comments
☐ For your information ☐ For your records

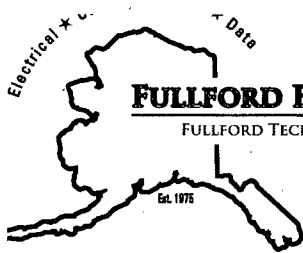
NOTE:

Please have your review comments in by Friday, July 19, 2013.

cc: CTCPGR

University of Alaska Fairbanks
Division of Design and Construction

Signed: Diane Pederson
907 474-5021



FULLFORD ELECTRIC INC.

FULLFORD TECHNOLOGY SYSTEMS

UAF-CTC Parking Garage Renovations

Project #2013190 CTC PGR
ELECTRICAL SUBMITTALS

Project: ***UAF-CTC Parking Garage Renovations***

FE Project #: 204641

General Contractor: *Fullford Electric, Inc.
303 E. Van Horn Rd.
Fairbanks, AK 99701*

Electrical Contractor: *Fullford Electric, Inc.
303 E. Van Horn Rd.
Fairbanks, AK 99701*

Date: July 12, 2013

INDEX

<i>Tab</i>	<i>Description</i>	<i>Section</i>
1	Electrical Distribution	
2	Raceways & Boxes	
3	Conductors & Cables	
4	Wiring Devices (N/A)	
5	Telecommunications	
6	Identification	

SUBMITTAL SUMMARY SHEETUAF FACILITIES SERVICES
DIV. OF DESIGN AND CONSTRUCTIONUniversity of Alaska Fairbanks
CTC-Parking Garage Renovations
Job No.: 2013190 CTCPR

JUL 12 2013

- | | | |
|--|--|--|
| | | |
| | | |
| | | |
1. Item No.: 1
 2. Specification Section/Drawing No./Detail No.: 5
 3. Name of Item/Drawing Equipment No.: Electrical Distribution
 4. Manufacturer/Model No.: Square D
 5. Use/Location (if not obvious):¹ As Specified
 6. Supplier: Total Electric Supply Company
2100 S Cushman Street
Fairbanks, AK 99701
 7. Subcontractor: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
 8. Provider(s) of Warranty Service: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
 9. Proposed Deviation from the Contract Documents:² _____
 10. Other Contractor Comments: _____

CONTRACTOR REVIEW:Ghemm Company
(Contractor)Reviewed By: [Signature]
(Signature)Title: PMDate: 7-12-13¹This information must be given for items provided
under Specification Sections 23 50 00 and 23 09 00,
even if obvious.²Entry must be made; if "none," so note.**CONSULTANT REVIEW:**

REV	DESCRIPTION	BY	DATE	--	----	--	---/---/---
--	----	--	---/---/---	--	----	--	---/---/---

CKT NO	ACCESSORIES	TYPE	RATING AMP/P		RATING AMP/P	TYPE	ACCESSORIES	CKT NO
1		EDB	20/1		20/1	EDB		2
3		EDB	20/1		20/1	EDB		4
5		EDB	20/1		20/1	EDB		6
7		EDB	20/1		20/1	EDB		8
9		EDB	20/1		20/1	EDB		10
11		EDB	20/1		20/1	EDB		12
13		EDB	20/1		20/1	EDB		14
15		EDB	20/1		20/1	EDB		16
17		EDB	20/1		20/1	EDB		18
19		EDB	20/1		20/1	EDB		20
21		EDB	20/1		20/1	EDB		22
23		EDB	20/1		20/1	EDB		24
25		EDB	20/1		20/1	EDB		26
27		EDB	20/1		20/1	EDB		28
29		EDB	20/1		20/1	EDB		30
31		EDB	20/1		20/1	EDB		32
33		EDB	20/1		20/1	EDB		34
35		EDB	20/1		20/1	EDB		36
37		EDB	20/1		20/1	EDB		38
39		EDB	20/1		20/1	EDB		40
41		EDB	20/1		20/1	EDB		42



PHYSICAL DATA

ENCLOSURE Type 1

Surface with Door
FRONT CAT#: NC44S
BOX CAT#: MH44BE
DIMENSIONS:
44"H x 20"W x 5.75"D
WIRE BENDING SPACE:
TOP - 5
BOTTOM - 13.25
SIDE - 4.1

PBA: 550

BUSSING: Copper

Silver/Tin Plated

OPTIONAL FEATURES:

BLANK ENDWALLS
ALUMINUM SOLID NEUTRAL
ALUMINUM GROUND BAR

ELECTRICAL DATA

SYSTEM: 480Y/277V 3Ph 4W 60Hz

System Ampacity: 225A

18kA SYMS. SCCR

MAIN: MAIN LUGS : 225A

Bottom FEED

INCOMING CONDUCTORS(S) PER NEC:

#6 - 350 kcmil

BRANCH MOUNTING TYPE: BOLT-ON

-----BRANCH SUMMATION-----

42 - 20A/1P EDB

JOB NAME:	UAF CTC PARKING GARAGE	EQUIPMENT DESIGNATION:	101/102
JOB LOCATION:	FAIRBANKS AK	EQUIPMENT TYPE:	NF (Circuit Breaker Type) PANEL 1 OF 1
DRAWN BY:	(Q2C)	DRAWING TYPE:	ONE LINE DIAGRAM
ENGR:			
DATE:	July 09 2013		
DRAWING STATUS:	QUOTE NOT FOR CONSTRUCTION	DWG#	033526659-01
		PG 1	OF 1
		REV	-



REV	DESCRIPTION	BY	DATE	-	----	---	---/---/---
--	----	--	---/---/---	-	-----	---	---/---/---

CKT NO	ACCESSORIES	TYPE	RATING AMP/P		RATING AMP/P	TYPE	ACCESSORIES	CKT NO
1		EDB	20/1		20/1	EDB		2
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9		EDB	20/1		20/1	EDB		10
11		EDB	20/1		20/1	EDB		12
13		EDB	20/1		20/1	EDB		14
15		EDB	20/1		20/1	EDB		16
17		EDB	20/1		20/1	EDB		18
19		EDB	20/1		20/1	EDB		20
21		EDB	20/1		20/1	EDB		22
23		EDB	20/1		20/1	EDB		24
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29		EDB	20/1		20/1	EDB		30
31		EDB	20/1		20/1	EDB		32
33		EDB	20/1		20/1	EDB		34
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OPTIONAL FEATURES:

BLANK ENDWALLS
 ALUMINUM SOLID NEUTRAL
 ALUMINUM GROUND BAR

ELECTRICAL DATA

SYSTEM: 480Y/277V 3Ph 4W 60Hz

System Ampacity: 225A

18kA SYMS. SCCR

MAIN: MAIN LUGS : 225A

Bottom FEED

INCOMING CONDUCTORS(S) PER NEC:

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BRANCH MOUNTING TYPE: BOLT-ON

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ENGR:			
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DRAWING STATUS:	QUOTE NOT FOR CONSTRUCTION	DWG# 033526659-01	PG 1 OF 1 REV -



REV	DESCRIPTION	BY	DATE	--	----	--	--/--/--
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ALUMINUM GROUND BAR

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18kA SYMS. SCCR

MAIN: MAIN LUGS : 225A

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BRANCH MOUNTING TYPE: BOLT-ON

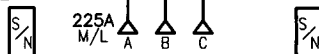
-----BRANCH SUMMATION-----

42 - 20A/1P EDB

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ENGR:			
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DRAWING STATUS:	QUOTE NOT FOR CONSTRUCTION	DWG#	033526659-01
		PG 1	OF 1
		REV	-

REV	DESCRIPTION	BY	DATE	-	----	---	---/---/---
-	-----	---	---/---/---	-	-----	---	---/---/---

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17		EDB	20/1		20/1	EDB		18
19		EDB	20/1		20/1	EDB		20
21		EDB	20/1		20/1	EDB		22
23		EDB	20/1		20/1	EDB		24
25		EDB	20/1		20/1	EDB		26
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33		EDB	20/1		20/1	EDB		34
35		EDB	20/1		20/1	EDB		36
37		EDB	20/1		20/1	EDB		38
39		EDB	20/1		20/1	EDB		40
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OPTIONAL FEATURES:

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ALUMINUM GROUND BAR

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18kA SYMS. SCCR

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INCOMING CONDUCTORS(S) PER NEC:

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ENGR:			
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DRAWING STATUS:	QUOTE NOT FOR CONSTRUCTION	DWG#	033526659-01
		PG 1	OF 1
		REV	-

Product data sheet

Characteristics

MH44BE

PANELBOARD ENCLOSURE/BOX TYPE 1 44H 20W

Product availability: Stock - Normally stocked in distribution facility
Price*: 113.00 USD

Main

Commercial Status	Commercialised
-------------------	----------------

Ordering and shipping details

Category	07969 - RTA N1 PB BOX - STD
Discount Schedule	PE1A
GTIN	00785901082699
Nbr. of units in pkg.	1
Package weight(Lbs)	31.40
Product availability	Stock - Normally stocked in distribution facility
Returnability	Y
Country of origin	US

Contractual warranty

Period	18 months
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The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein. *Prices are indicative

Product data sheet
Characteristics

NC44S
PANELBOARD COVER/TRIM NF TYPE 1 S 44H



by **Schneider Electric**

Product availability: Stock - Normally stocked in distribution facility
Price*: 663.00 USD

Main

Commercial Status	Commercialised
-------------------	----------------

Ordering and shipping details

Category	08352 - NF TRIMS RTA
Discount Schedule	PE1A
GTIN	00785901798880
Nbr. of units in pkg.	1
Package weight(Lbs)	24.00
Product availability	Stock - Normally stocked in distribution facility
Returnability	Y
Country of origin	US

Offer Sustainability

Sustainable offer status	Not Green Premium product
RoHS	Will be Compliant on 3Q2014
REACH	Reference not containing SVHC above the threshold

Contractual warranty

Period	18 months
--------	-----------

Table 9.55: E-frame—125 A, Thermal-magnetic (480Y/277 Vac)

Ampere Rating	ED, EG, EJ (480Y/277 Vac)		"D" Interrupting Level 18 kA @ 480Y/277 Vac		"G" Interrupting Level 35 kA @ 480Y/277 Vac		"J" Interrupting Level 65 kA @ 480Y/277 Vac		Terminal Wire Range	
	Hold	Trip	Catalog Number	\$ Price	Catalog Number	\$ Price	Catalog Number	\$ Price		
1-pole, 277 Vac										
15	270	875	EDB14015■	150.	EGB14015■	255.	EJB14015■	408.	AL30FD #14-#6 Al or Cu	
20			EDB14020■		EGB14020■		EJB14020■			
25			EDB14025■		EGB14025■		EJB14025■			
30			EDB14030■		EGB14030■		EJB14030■			
35	630	1800	EDB14035■	150.	EGB14035■	225.	EJB14035■	408.	AL100FD #14-2/0 Al or Cu	
40			EDB14040■		EGB14040■		EJB14040■			
45			EDB14045■		EGB14045■		EJB14045■			
50			EDB14050■		EGB14050■		EJB14050■			
60			EDB14060■		EGB14060■		EJB14060■			
70			EDB14070■		EGB14070■		EJB14070■			
2-pole, 480Y/277 Vac ♦										
15	270	875	EDB24015■	536.	EGB24015■	776.	EJB24015■	1241.	AL30FD #14-#6 Al or Cu	
20			EDB24020■		EGB24020■		EJB24020■			
25			EDB24025■		EGB24025■		EJB24025■			
30			EDB24030■		EGB24030■		EJB24030■			
35	630	1800	EDB24035■	536.	EGB24035■	776.	EJB24035■	1241.	AL100FD #14-2/0 Al or Cu	
40			EDB24040■		EGB24040■		EJB24040■			
45			EDB24045■		EGB24045■		EJB24045■			
50			EDB24050■		EGB24050■		EJB24050■			
60			EDB24060■		EGB24060■		EJB24060■			
70			EDB24070■		EGB24070■		EJB24070■			
80	1000	2300	EDB24080■	756.	EGB24080■	1280.	EJB24080■	2135.	AL100FD #14-2/0 Al or Cu	
90			EDB24090■		EGB24090■		EJB24090■			
100			EDB24100■		EGB24100■		EJB24100■			
110			EDB24110■		EGB24110■		EJB24110■			
125			EDB24125■		EGB24125■		EJB24125■			
3-pole, 480Y/277 Vac										
15	270	875	EDB34015■	669.	EGB34015■	1131.	EJB34015■	1358.	AL30FD #14-#6 Al or Cu	
20			EDB34020■		EGB34020■		EJB34020■			
25			EDB34025■		EGB34025■		EJB34025■			
30			EDB34030■		EGB34030■		EJB34030■			
35	630	1800	EDB34035■	669.	EGB34035■	1131.	EJB34035■	1358.	AL100FD #14-2/0 Al or Cu	
40			EDB34040■		EGB34040■		EJB34040■			
45			EDB34045■		EGB34045■		EJB34045■			
50			EDB34050■		EGB34050■		EJB34050■			
60			EDB34060■		EGB34060■		EJB34060■			
70			EDB34070■		EGB34070■		EJB34070■			
80	1000	2300	EDB34080■	911.	EGB34080■	1292.	EJB34080■	2562.	AL100FD #14-2/0 Al or Cu	
90			EDB34090■		EGB34090■		EJB34090■			
100			EDB34100■		EGB34100■		EJB34100■			
110			EDB34110■		EGB34110■		EJB34110■			
125			EDB34125■		EGB34125■		EJB34125■			
EPDs (Equipment Protection Devices), 1-pole, 277 Vac, Thermal-magnetic with 30 mA ground-fault protection*										
15	270	875	EDB14015EPD▲	1151.	EGB14015EPD▲	1256.	EJB14015EPD▲	1409.	#14-#6 Cu or #12-#4 Al	
20			EDB14020EPD▲		EGB14020EPD▲		EJB14020EPD▲			
25			EDB14030EPD		EGB14030EPD		EJB14030EPD			
30			EDB14030EPD		EGB14030EPD		EJB14030EPD			
40	630	1800	EDB14040EPD	1151.	EGB14040EPD	1256.	EJB14040EPD	1409.		
50			EDB14050EPD		EGB14050EPD		EJB14050EPD			

Note: All EDB, EGB, and EJB circuit breakers are UL Listed as HACR Type. For 50 °C calibration, use a CA suffix. NF branch circuit breakers are fungus proof as standard.

- ▲ UL Listed as SWD (Switching duty rated).
- UL Listed as HID (High Intensity Discharge rated).
- ◆ UL Listed for use on 240 V Corner-grounded Delta Systems (Grounded B Phase). See: 2700DB0202.
- * All EPDs occupy two spaces, with or without Alarm Switch option. For alarm switch add 158 list Price and the suffix BA.

Table 9.56: Factory installed Electrical Accessories

Auxiliary Switch (1A/1B)	Alarm Switch (NO)	Coil Burden Max. (VA)	Minimum Recommended Supply Transformer (VA)
Monitors circuit breaker contact status and provides a remote signal indicating the circuit breaker contacts are OPEN or CLOSED.	Used with control circuits and is actuated only when the circuit breaker has tripped.	288	50
APPLICATION Max Load = 10 A @ 120 Vac 50/60 Hz Terminals for #14 AWG Cu wire	APPLICATION Max Load = 7 A @ 120 Vac 50/60 Hz Terminals for #14 AWG Cu wire.	Shunt Trip Trips the circuit breaker from a remote location by means of a coil energized from a separate circuit. A 120 V shunt trip will operate at 55% or more of rated voltage. APPLICATION For use with momentary or maintained push button. 120 Vac 50/60 Hz Terminals for #14 AWG Cu wire.	

Table 9.57: Factory Installed Electrical Accessory Packages for ED, EG, EJ Circuit Breakers

Accessory Package	Suffix	\$ Price
Auxiliary Switch/Alarm Switch Package▲■	AABA	312.
Shunt Trip Package▲■	SA	755.
Auxiliary Switch/Alarm	AABASA	1067.
Alarm Switch (N.O.) Package for EPDs only	BA	237.

- ▲ Accessory package takes an additional pole space.
- Not available for EPD.

Table 9.58: Terminal Nut Insert Kit

Circuit Breaker Type	Qty. per Kit	Catalog No.	\$ Price
ED, EG, EJ	3	TIKFD	17.40

Table 9.59: Handle Accessories

Circuit Breaker Type	No. of Poles	Catalog No.	\$ Price
EXB Fixed Padlock Attachment, Lock ON/OFF			
ED, EG, EJ	1, 2, or 3	EDPA	39.00
EXB Fixed padlock attachment, Lock OFF only			
ED, EG, EJ	1, 2, or 3	EDPAF	45.00
EXB Removable padlock attachment, Lock OFF only			
ED, EG, EJ	1, 2, or 3	HPAFD	25.50
EXB Handle Ties			
ED, EG, EJ	Ties 2 - 1P	EGB2HT	16.80
	Ties 3 - 1P	EGB3HT	17.85

Table 9.60: Interrupt Ratings (kA)

	EDB	EGB	EJB
120 V	25	65	100
240 V	18 (1P), 25	35 (1P), 65	65 (1P), 100
480Y/277 V	18	35	65

Table 9.61: Mechanical Lug Kit Information (Al lugs for use with Al or Cu wire)

Circuit Breaker Application				Number of Wires Per Lug and Wire Range	Catalog Number	Lugs Per Kit	\$ price Per Kit
Standard	Ampere Rating	Optional	Ampere Rating				
EDB, EGB, EJB	15-30	—	—	one #12-#6 AWG Al or one #14-#6 AWG Cu	AL30FD	3	41.30
	35-125	EDB, EGB, EJB	15-30▲	one #12-2/0 AWG Al or one #14-2/0 AWG Cu	AL100FD	3	
	—	EDB, EGB, EJB	15-125	one #14-1/0 AWG Cu	CU100FD	3	

▲ Factory installed only. Use suffix "LH"

Dimensions pages starting on 7-55



EDB-EPD
1-pole
with Alarm Switch



EDB, EGB, EJB
3-pole
15-125 Amperes



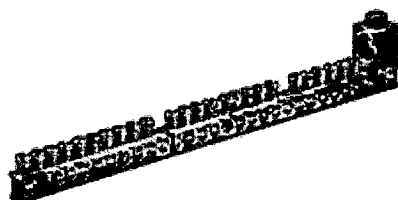
EDB, EGB, EJB
1-pole
15-70 Amperes



EDB, EGB, EJB
2-pole
15-125 Amperes

PK27GTA

LOAD CENTER EQUIPMENT GROUND BAR ASSY



by Schneider Electric

List Price \$33.80 USD

Availability **Stock Item:** This item is normally stocked in our distribution facility.

Technical Characteristics

Application	Load Centers
Marketing Trade Name	QO and Homeline

Shipping and Ordering

Category	00102 - Load Centers, Accessories, Type QO
Discount Schedule	DE3A
GTIN	00785901156819
Package Quantity	10
Weight	0.28 lbs.
Availability Code	Stock Item: This item is normally stocked in our distribution facility.
Returnability	Y
Country of Origin	US

As standards, specifications, and designs change from time to time, please ask for confirmation of the information given in this document.

Generated: 10/05/2012 15:56:35

SUBMITTAL SUMMARY SHEET

University of Alaska Fairbanks
CTC-Parking Garage Renovations
Job No.: 2013190 CTC-PGR

UAF FACILITIES SERVICES
DIV. OF DESIGN AND CONSTRUCTION

JUL 12 2013

- | | | |
|--|--|--|
| | | |
| | | |
| | | |
1. Item No.: 2
 2. Specification Section/Drawing No./Detail No.: 6
 3. Name of Item/Drawing Equipment No.: Raceways & Boxes
 4. Manufacturer/Model No.: Various
 5. Use/Location (if not obvious):¹ As Specified
 6. Supplier: Total Electric Supply Company
2100 S Cushman Street
Fairbanks, AK 99701
 7. Subcontractor: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
 8. Provider(s) of Warranty Service: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
 9. Proposed Deviation from the Contract Documents:² _____
 10. Other Contractor Comments: _____

CONTRACTOR REVIEW:

Ghemm Company
(Contractor)

Reviewed By: ASB
(Signature)

Title: _____

Date: _____

¹ This information must be given for items provided
under Specification Sections 23 50 00 and 23 09 00,
even if obvious.

² Entry must be made; if "none," so note.

CONSULTANT REVIEW:

RepublicConduit

Electrunite® Electrical Metallic Tubing

Simplify Installation, Save Time, Spend Less

Republic Conduit's Electrunite® Electrical Metallic Tubing (EMT) is the easiest electrical conduit to bend currently available in the marketplace. It is the thinnest and lightest of all of our products. Republic's EMT is manufactured from high quality, flat rolled steel and is produced using Republic Conduit's exclusive Electrogalvanizing process, which provides a protective surface coating of satin-smooth, corrosion-resistant zinc to the tube. A secondary treatment, following the zinc coating, extends the surface protection of Republic Conduit's EMT.

The finished Republic EMT is uniform in outside diameter (OD), wall thickness and ductility. Its structural strength ensures system integrity, as it doesn't sag or become brittle under extreme temperature, nor does it burn or decompose, producing harmful smoke or gases.

Large sizes of Republic's EMT offer an advantage for jobs where weight is a key factor in designing an electrical wiring system. Because of its thinner walls, large size EMT weighs approximately 40% less than Galvite® Electrical Rigid Metal Conduit-Steel (Galvite® ERMCS). This, in turn, allows Republic Conduit's customers to save on shipping and overall installation costs. And because the walls of this product are thinner, there is approximately 22% more space on the inside of the conduit as compared to identically sized Galvite® ERMCS.

Republic Conduit is committed to implementing effective quality management systems and processes. Our Georgia facility has maintained an ISO certification since 1995 and has been recertified in 2008. Also in 2008, the Kentucky facility has achieved its initial certification by successfully meeting the requirements for ISO 9001:2000.



Features and Benefits

Consistent Quality – Republic Conduit's entire production process is solely focused on manufacturing quality products made to our customers' specifications. Our products are also manufactured to the highest criteria of the American National Standards Institute (ANSI) and Underwriters Laboratories (UL). Because of its ductility and tight tolerances, our EMT promotes wrinkle-free bends, reduces kinking and minimizes splitting from repeated bending and straightening.

Cost-Effective Installations – Republic's EMT is a thin wall product with more inside wiring space, which means that less product is necessary to purchase.

- Easier wire pulling and pushing – diamond-shaped ID pattern* and protective, slick, inside coating (Silverslick®), reduce friction when pulling / pushing the wires. The Silverslick finish stays hard and smooth in various climate conditions, protecting your conduit and your investment.
- Accurate, time-efficient bending – Because 1/2", 3/4" and 1" sizes of Republic Conduit's EMT are Inch-Marked® and Guide-Lined®, the product is easier to cut and bend properly right away,** further reducing waste.
- Lower life-cycle costs – steel conduit is impact and fire resistant, chemically compatible with concrete and resists cracking, flaking and damage from severe bending. Its physical and mechanical properties ensure that the pipe has an extended shelf life, great for usage and storage without degradation in quality.

*Applies to 1/2", 3/4" and 1" EMT sizes.

**When using an EMT bender.

RepublicConduit

INCH-MARKED® | SILVERSLICK® | GUIDE-LINED® | INCH-MARKED®

System Grounding and Electromagnetic Interference Shielding – Republic Conduit's EMT not only protects people from the harmful effects of faulty wiring, but also protects any nearby electric / electronic equipment from damage by the electromagnetic field.

Trade sizes range from 1/2" to 4".

Conduit is manufactured in the U.S.

Available Sizes

To easily identify the right size pipe for the job, simply look at our EMT's color coded ends (1/2" sizes use black tape, 3/4" sizes use red and 1" sizes use blue).

Inventories of our products are maintained by leading electrical distributors throughout North America. Contact our Agent in your area today or visit www.republicconduit.com for more information.

Weights and Dimensions*

Trade Size Designator		Outside Diameter (OD)		Nominal Inside Diameter (ID)		Nominal Wall Thickness		Nominal Weight per 100 Feet		Feet per Bundle	Standard Lifts				Color Code	Method
US	Metric	IN	mm	IN	mm	IN	mm	LBS	kg		Length		Weight			
											FEET	m	LBS	kg		
1/2	16	0.706	17.93	0.622	15.80	0.042	1.07	30	13.6	100	7000	2135	2100	952.4	Black	Tape
3/4	21	0.922	23.42	0.824	21.00	0.049	1.25	46	20.9	100	5000	1525	2300	1043.1	Red	Tape
1	27	1.163	29.54	1.049	26.60	0.057	1.45	67	30.4	100	3000	915	2010	911.6	Blue	Tape
1 1/4	35	1.510	38.35	1.380	35.05	0.065	1.65	101	45.8	50	2000	610	2020	916.1	Red	Tape
1 1/2	41	1.740	44.20	1.610	40.89	0.065	1.65	116	52.6	50	1500	457.5	1740	789.1	Black	Tape
2	53	2.197	55.80	2.067	52.50	0.065	1.65	148	67.1	30	1200	366	1776	805.4	Blue	Tape
2 1/2	63	2.875	73.03	2.731	69.36	0.072	1.83	216	98.0		610	186.1	1318	597.7	Black	Tape
3	78	3.500	88.90	3.356	85.24	0.072	1.83	263	119.3		510	155.6	1341	608.2	Blue	Tape
3 1/2	91	4.000	101.6	3.834	97.38	0.083	2.11	349	158.3		370	112.9	1291	585.5	Black	Tape
4	103	4.500	114.3	4.334	110.08	0.083	2.11	393	178.2		300	91.5	1179	534.7	Blue	Tape

Outside Diameter

For trade size through 2"	±0.005	±0.13 mm
For trade size 2 1/2"	±0.010	±0.25 mm
For trade size 3"	±0.015	±0.38 mm
For trade sizes 3 1/2" and 4"	±0.020	±0.51 mm

• The values in feet / pound units are standard. The metric equivalents may be approximate. Conduit is always identified by its English or Metric Trade Size Designator.

• 1/2", 3/4", and 1" sizes of Republic's EMT are furnished bearing the Inch-Marked® and Guide-Lined® trademarks and with diamond knurled inside finish for easier wire pull / push.

• All sizes furnished in 10' lengths.

• Applicable length tolerance = ±1/4" (±6.35mm) without a coupling.

• 2 1/2", 3", 3 1/2", and 4" OD sizes are the same as corresponding trade sizes of Galvite ERMCS.

Specifications

Architects desiring to specify Republic Conduit EMT should include the following description:

Electrical conductors shall be enclosed in Electrunite EMT in accordance with the National Electrical Code (NEC). Electrical metallic tubing shall be mild steel, electrically-welded, galvanized and produced to the following specifications:

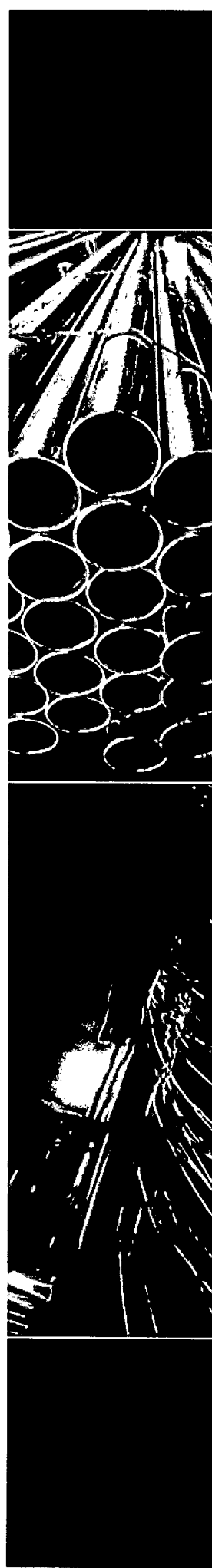
- ANSI – American National Standard for Steel Electrical Metallic Tubing, (EMT) ANSI, C80.3
- National Electric Code, 2002 Article 358 (1999 NEC, Article 348)
- UL Standard for Electrical Metallic tubing – Steel, UL 797, File # E7465
- Federal Specification WW-C-563

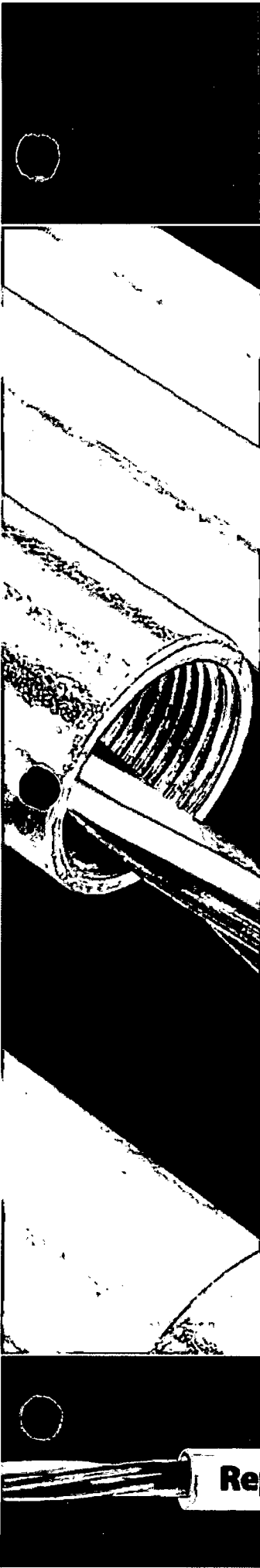
The above Federal Specification WW-C-563 may still be referenced; however, the federal government has canceled it and has adopted the Underwriters Laboratories 797 and American National Standards Institute C80.3 standards.

**All orders are subject to Republic Conduit's Terms and Conditions, a copy of which is available upon request.*

www.republicconduit.com

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RepublicConduit

Intermediate Metal Conduit

Simplify Installation, Save Time, Spend Less

As a cost effective alternative to Galvite® Electrical Rigid Metal Conduit-Steel, Republic Conduit's Intermediate Metal Conduit (IMC) is manufactured to American National Standards Institute (ANSI) specification C80.6 and Underwriters Laboratories (UL) standard 1242. It is made from high quality, flat rolled steel, and is produced using an Electric Resistance Welding process. The finished tube is uniform in outside diameter (OD), wall thickness and ductility.

Republic Conduit's IMC is fire resistant. It does not burn, decompose, or give off harmful smoke or gases in a fire. It is also compatible with concrete and overall, allows our customers to install a quality, magnetically shielded and grounded electrical wiring system quickly and cost-effectively.

Our products are also manufactured to the highest criteria of the American National Standards Institute (ANSI) and Underwriters Laboratories (UL).

Republic Conduit is committed to implementing effective quality management systems and processes. Our Georgia facility has maintained an ISO certification since 1995 and has been recertified in 2008. Also in 2008, the Kentucky facility has achieved its initial certification by successfully meeting the requirements for ISO 9001:2000.



Features and Benefits

Consistent Quality – Republic Conduit's IMC is manufactured for long life and provides complete physical and mechanical protection for any electrical wiring job. For eighty years, Republic Conduit's products have been and are today manufactured to all of our customers' specifications.

Cost-Effective – IMC's thin walls allow for lower material and shipping costs, while its consistently accurate metallurgical properties and smooth surfaces require less installation capital spent on wiring projects. This pipe has an extended shelf life, great for usage or storage without degradation in quality.

Easier, Faster Installs – IMC's protective, slick, inside diameter (ID) coating (Silverslick®) reduces friction when pulling / pushing the wires. The outside diameter (OD) surfaces are zinc-coated for further corrosion protection (the entire finish stays hard and smooth in various climate conditions). An additional OD passivation treatment provides superior protection from rust.

Trade sizes range from 1/2" to 4".

Conduit is manufactured in the U.S.



RepublicConduit

Available Sizes

Republic's IMC is provided with a color coded thread protector on one end and a coupling on the other.

Inventories of our products are maintained by leading electrical distributors throughout North America. Contact our Agent in your area today or visit www.republicconduit.com for more information.

Weights and Dimensions*

Trade Size Designator		Outside Diameter (OD)				Wall Thickness				Nominal Weight per 100 Feet		Feet per Bundle	Standard Lifts				Length without Coupling	Threads per Inch	Color Code	Method
		Minimum		Maximum		Minimum		Maximum					Length		Weight					
US	Metric	IN	mm	IN	mm	IN	mm	IN	mm	LBS	kg		FEET	m	LBS	kg				
1/2	16	0.810	20.57	0.820	20.83	0.070	1.78	0.085	2.16	62	28.1	100	3500	1067.5	2170	984.1	9' 11 1/4"	14	Yellow	End Caps
3/4	21	1.024	26.01	1.034	26.26	0.075	1.91	0.090	2.29	84	38.1	50	2500	752.5	2100	952.4	9' 11 1/4"	14	Green	End Caps
1	27	1.285	32.64	1.295	32.89	0.085	2.16	0.100	2.54	119	54.0	50	1700	518.5	2023	917.5	9'11"	11.5	Orange	End Caps
1 1/4	35	1.630	41.40	1.645	41.78	0.085	2.16	0.100	2.54	158	71.7		1350	411.8	2133	967.3	9'11"	11.5	Green	End Caps
1 1/2	41	1.875	47.63	1.890	48.01	0.090	2.29	0.105	2.67	194	88.0		1100	335.5	2134	967.8	9'11"	11.5	Yellow	End Caps
2	53	2.352	59.74	2.367	60.12	0.095	2.41	0.110	2.79	256	116.1		800	244.0	2048	928.8	9'11"	11.5	Orange	End Caps
2 1/2	63	2.847	72.31	2.867	72.82	0.140	3.56	0.160	4.06	441	200.0		370	112.9	1632	740.1	9' 10 1/2"	8	Yellow	End Caps
3	78	3.466	88.04	3.486	88.54	0.140	3.56	0.160	4.06	543	246.3		300	91.5	1629	738.8	9' 10 1/2"	8	Orange	End Caps
3 1/2	91	3.961	100.61	3.981	101.12	0.140	3.56	0.160	4.06	629	285.3		240	73.2	1510	684.8	9' 10 1/4"	8	Yellow	End Caps
4	103	4.456	113.18	4.476	113.69	0.140	3.56	0.160	4.06	700	317.5		240	73.2	1680	761.9	9' 10 1/4"	8	Orange	End Caps

• The values in feet / pound units are standard. The metric equivalents may be approximate. Conduit is always identified by its English or Metric Trade Size Designator.

• Republic's IMC is provided with a color coded thread protector on one end and a coupling on the other.

• 1/2", 3/4", and 1" sizes of Republic's IMC are furnished with diamond knurled inside finish for easier wire pull / push.

• Applicable length tolerance = $\pm 1/4"$ (± 6.35 mm) without a coupling.

• All sizes furnished in 10' lengths.

Specifications

Republic Conduit's Intermediate Metal Conduit is produced to the following specifications:

- ANSI – American National Standard for Electrical Intermediate Metal Conduit (EIMC) ANSI, C80.6
- National Electric Code, 2002 Article 342 (1999 NEC, Article 345)
- UL Standard for Electrical Intermediate Metal Conduit – Steel, UL 1242, File # E79211
- Federal Specification WW-C-581 (Class 2 Type A)

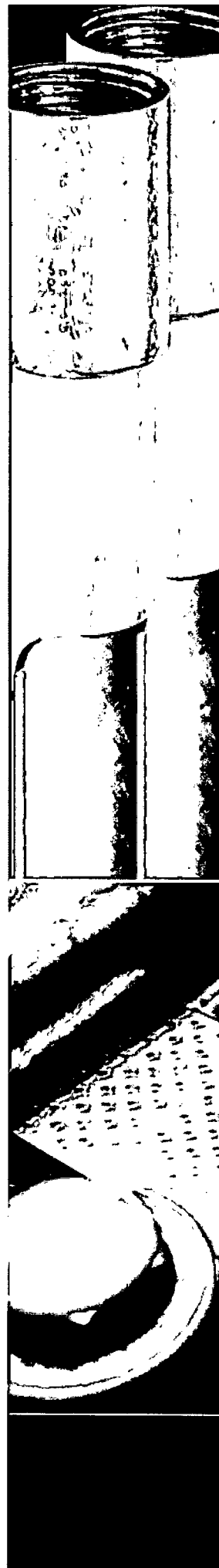
The above Federal Specification WW-C-581 may still be referenced; however, the federal government has canceled it and has adopted the UL 1242 standard.

For more information, visit www.republicconduit.com.

*All orders are subject to Republic Conduit's Terms and Conditions, a copy of which is available upon request.

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RepublicConduit

Galvite® Electrical Rigid Metal Conduit-Steel

Simplify Installation, Save Time, Spend Less

Republic Conduit's Galvite® Electrical Rigid Metal Conduit-Steel (Galvite® ERM-C-S) means superior protection, strength, safety and ductility for your wiring jobs. It is manufactured from high quality, flat rolled steel and is produced by an Electric Resistance Welding process. Its welds are strong and smooth, and its tightly adhering finish is free of burnt or hard spots.

This product is Hot-Dip Galvanized inside and out, and is ideal for jobs where severe bending may be required. Republic Conduit's Galvite ERM-C-S is suitable for the most demanding industrial and commercial building and construction jobs, both indoors and outdoors, and is produced to American National Standards Institute (ANSI) specification C80.1 and UL standard 6.

Our products are manufactured to the highest criteria of the American National Standards Institute (ANSI) and Underwriters Laboratories (UL).

Republic Conduit is committed to implementing effective quality management systems and processes. Our Georgia facility has maintained an ISO certification since 1995 and has been recertified in 2008. Also in 2008, the Kentucky facility has achieved its initial certification by successfully meeting the requirements for ISO 9001:2000.



Features and Benefits

Consistent Quality – for 80 years, Republic Conduit's products have been and are today manufactured to all of the required specifications and customer needs. Because Republic Conduit's Galvite ERM-C-S is manufactured for long life, it is durable, strong, and suitable for the harshest environmental conditions, providing complete mechanical and physical protection to any electrical wiring project. The metal is welded to ensure quality standards are met and exceeded. The inside surface of the pipe is obstruction-free and extra smooth, making wire pulling and pushing easy.

Lower Life-Cycle Costs – Republic's conduit is impact and fire resistant, chemically compatible with concrete, and resists cracking, flaking, peeling and damage from severe bending. Its physical and mechanical properties ensure that the pipe has an extended shelf life, great for usage or storage without degradation in quality. The product is easy to cut, form and join.

System Grounding and Electromagnetic Interference Shielding – wires encased in Republic Conduit's Galvite ERM-C-S protect electric / electronic equipment from being damaged by the electromagnetic field.

Trade sizes range from 1/2" to 6".

Conduit is manufactured in the U.S.



RepublicConduit

Available Sizes

Republic's Galvite® ERM-C-S is provided with a color coded thread protector on one end and a coupling on the other, for easier identification and thread protection.

Inventories of our products are maintained by leading electrical distributors throughout North America. Contact our Agent in your area today or visit www.republicconduit.com for more information.

Weights and Dimensions*

Trade Size Designator		Outside Diameter (OD)		Nominal Inside Diameter (ID)		Nominal Weight per 100 Feet		Feet per Bundle	Standard Lifts				Treads per Inch	Color Code	Method
									Length		Weight				
US	Metric	IN	mm	IN	mm	LBS	kg		FEET	m	LBS	kg			
1/2	16	0.840	21.34	0.622	15.8	82	37.2	100	2500	762.5	2050	929.7	14	Black	End Caps
3/4	21	1.050	26.67	0.824	20.93	109	49.4	50	2000	610	2180	988.7	14	Red	End Caps
1	27	1.315	33.4	1.049	26.64	161	73	50	1250	381.3	2013	912.9	11.5	Blue	End Caps
1 1/4	35	1.660	42.16	1.38	35.05	218	98.9		900	274.5	1962	889.8	11.5	Red	End Caps
1 1/2	41	1.900	48.26	1.61	40.89	263	119.3		800	244	2104	954.2	11.5	Black	End Caps
2	53	2.375	60.33	2.067	52.5	350	158.7		600	183	2100	952.4	11.5	Blue	End Caps
2 1/2	63	2.875	73.03	2.469	62.71	559	253.5		370	112.9	2068	937.9	8	Black	End Caps
3	78	3.500	88.9	3.068	77.93	727	329.7		300	91.5	2181	989.1	8	Blue	End Caps
3 1/2	91	4.000	101.6	3.548	90.12	880	399.1		250	76.3	2200	997.7	8	Black	End Caps
4	103	4.500	114.3	4.026	102.26	1030	467.1		200	61	2050	934.2	8	Blue	End Caps
5	129	5.563	141.3	5.047	128.19	1400	634.9		150	45.8	2100	952.4	8	Blue	End Caps
6	155	6.625	168.28	6.065	154.05	1840	834.5		100	30.5	1840	834.5	8	Blue	End Caps

Outside Diameter

For trade sizes through 2"	±0.015	±0.38 mm
For trade size 2 1/2" through 4"	±0.025	±0.64 mm
For trade sizes 5" through 6"	±1%	

- The values in feet / pound units are standard. The metric equivalents may be approximate. Conduit is always identified by its English or Metric Trade Size Designator.
- Republic's Galvite® ERM-C-S is provided with a color coded thread protector on one end and a coupling on the other.

- All sizes furnished in 10' lengths.
- Applicable length tolerance = $\pm 1/4"$ (± 6.35 mm) without a coupling.
- All dimensions and weights shown above are nominal.

Specifications

Architects desiring to specify Galvite ERM-C-S from Republic Conduit should include the following description:

Electrical conductors shall be enclosed in Galvite ERM-C-S in accordance with the National Electrical Code. Rigid steel conduit shall be mild steel, manufactured, Hot-Dip Galvanized and produced to the following specifications:

- ANSI – American National Standard for Electrical Rigid Steel Conduit (ERSC) ANSI, C80.1
- National Electric Code, 2002 Article 344 (1999 NEC, Article 346)
- UL Standard for Electrical Rigid Metal Conduit – Steel, UL 6, File # E104582
- Federal Specification WW-C-581 (Class 1 Type A)

The above Federal Specification WW-C-581 may still be referenced; however, the federal government has canceled it and has adopted the UL 6 standard.

For more information, visit www.republicconduit.com.

**All orders are subject to Republic Conduit's Terms and Conditions, a copy of which is available upon request.*

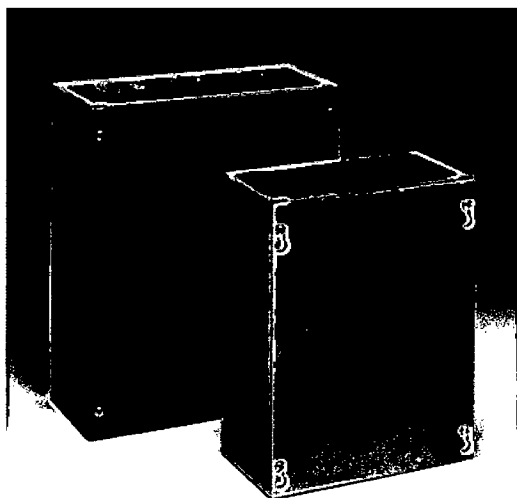
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Type 1 Enclosures

Type 1 Screw Cover Enclosures - Painted & Galvanized Data Sheet

Type 1 Enclosures



Application

- Used as wiring boxes, junction and pull boxes
- Protects against contact with enclosed equipment

Construction

- Enclosure and cover are fabricated from code gauge steel or galvanized steel, (see table)
- Enclosure body has mounting holes on the back
- Enclosures are available with or without knockouts on the sides, top and bottom ends
- Cover is secured to the body with plated screws
- Keyhole slots provided in the cover allow easy access to the inside without removing the screws
- #10-32 tapped hole provision for optional ground lug kit

Finish

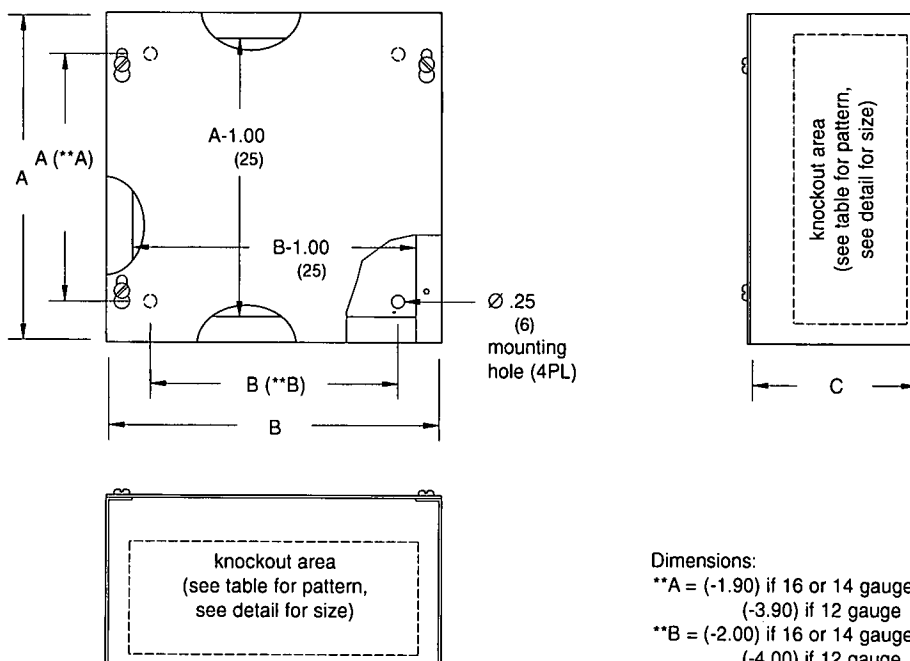
- Wash and phosphate undercoat or galvanized steel
- ANSI 61 gray acrylic electrocoat finish

Standards

- UL 50 listed, Type 1
- CSA C22.2 No. 40 certified, Type 1
- Conforms to NEMA standard for Type 1
- IEC 60529, IP30

Accessories

- Ground lug kit
- Touch-up paint
- See Accessories section



Dimensions:

- $**A = (-1.90)$ if 16 or 14 gauge
 (-3.90) if 12 gauge
- $**B = (-2.00)$ if 16 or 14 gauge
 (-4.00) if 12 gauge

Notes: Cooper B-Line can provide special sizes, finishes and other modifications. Consult the factory for your special requirements.

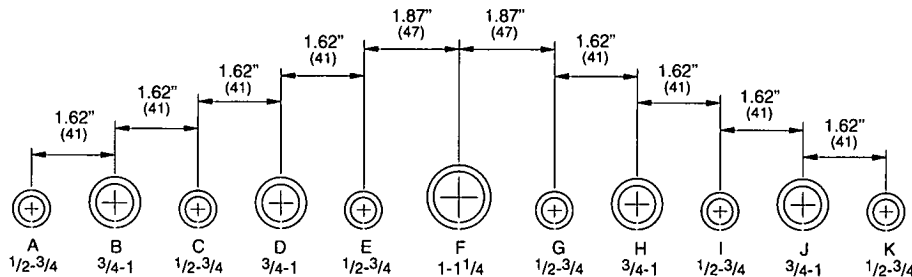
Type 1 Enclosures

Type 1 Screw Cover Enclosures - Painted & Galvanized

Catalog Number

Type 1 Enclosures

Enclosure Catalog Number				Enclosure Size		Gauge	Knockout Pattern	Knockout Pattern
Painted		Galvanized		Height x Width x Depth			Each Side	Top & Bottom
A x B x C								
KO	No KO	KO	No KO	in.	mm			
663 SC	663 SC NK	663 SCGV	663 SCGV NK	6.00x6.00x3.00	152x152x76	16	CDE	CDE
444 SC	444 SC NK	444 SCGV	444 SCGV NK	4.00x4.00x4.00	102x102x102	16	CD	CD
644 SC	644 SC NK	644 SCGV	644 SCGV NK	6.00x4.00x4.00	152x102x102	16	CDE	CD
664 SC	664 SC NK	664 SCGV	664 SCGV NK	6.00x6.00x4.00	152x152x102	16	CDE	CDE
864 SC	864 SC NK	864 SCGV	864 SCGV NK	8.00x6.00x4.00	203x152x102	16	GHIJ	CDE
884 SC	884 SC NK	884 SCGV	884 SCGV NK	8.00x8.00x4.00	203x203x102	16	GHIJ	GHIJ
1084 SC	1084 SC NK	1084 SCGV	1084 SCGV NK	10.00x8.00x4.00	254x203x102	16	GHIJ	GHIJ
10104 SC	10104 SC NK	10104 SCGV	10104 SCGV NK	10.00x10.00x4.00	254x254x102	16	GHIJ	GHIJ
1264 SC	1264 SC NK	1264 SCGV	1264 SCGV NK	12.00x6.00x4.00	305x152x102	16	DEFGH	CDE
1284 SC	1284 SC NK	1284 SCGV	1284 SCGV NK	12.00x8.00x4.00	305x203x102	16	DEFGH	GHIJ
12104 SC	12104 SC NK	12104 SCGV	12104 SCGV NK	12.00x10.00x4.00	305x254x102	16	DEFGH	DEFGH
12124 SC	12124 SC NK	12124 SCGV	12124 SCGV NK	12.00x12.00x4.00	305x305x102	16	DEFGH	DEFGH
15124 SC	15124 SC NK	15124 SCGV	15124 SCGV NK	15.00x12.00x4.00	381x305x102	16	CDEFGHI	DEFGH
15154 SC	15154 SC NK	15154 SCGV	15154 SCGV NK	15.00x15.00x4.00	381x381x102	16	CDEFGHI	CDEFGHI
16124 SC	16124 SC NK	16124 SCGV	16124 SCGV NK	16.00x12.00x4.00	406x305x102	16	CDEFGHI	DEFGH
16164 SC	16164 SC NK	16164 SCGV	16164 SCGV NK	16.00x16.00x4.00	406x406x102	16	CDEFGHI	CDEFGHI
18124 SC	18124 SC NK	18124 SCGV	18124 SCGV NK	18.00x12.00x4.00	457x305x102	16	BCDEFGHIJ	DEFGH
18154 SC	18154 SC NK	18154 SCGV	18154 SCGV NK	18.00x15.00x4.00	457x381x102	16	BCDEFGHIJ	BCDEFGHIJ
18184 SC	18184 SC NK	18184 SCGV	18184 SCGV NK	18.00x18.00x4.00	457x457x102	16	BCDEFGHIJ	BCDEFGHIJ
24124 SC	24124 SC NK	24124 SCGV	24124 SCGV NK	24.00x12.00x4.00	610x305x102	16	BCDEFGHIJ	DEFGH
24184 SC	24184 SC NK	24184 SCGV	24184 SCGV NK	24.00x18.00x4.00	610x457x102	16	BCDEFGHIJ	BCDEFGHIJ
24244 SC	24244 SC NK	24244 SCGV	24244 SCGV NK	24.00x24.00x4.00	610x610x102	14	BCDEFGHIJ	BCDEFGHIJ
30184 SC	30184 SC NK	30184 SCGV	30184 SCGV NK	30.00x18.00x4.00	762x457x102	16	BCDEFGHIJ	BCDEFGHIJ
30244 SC	30244 SC NK	30244 SCGV	30244 SCGV NK	30.00x24.00x4.00	762x610x102	14	BCDEFGHIJ	BCDEFGHIJ
36244 SC	36244 SC NK	36244 SCGV	36244 SCGV NK	36.00x24.00x4.00	914x762x102	14	BCDEFGHIJ	BCDEFGHIJ
-	30304 SC NK	-	30304 SCGV NK	30.00x30.00x4.00	762x762x102	12	-	-
-	36304 SC NK	-	36304 SCGV NK	36.00x30.00x4.00	914x762x102	12	-	-
-	36364 SC NK	-	36364 SCGV NK	36.00x36.00x4.00	914x914x102	12	-	-
-	48364 SC NK	-	48364 SCGV NK	48.00x36.00x4.00	1219x914x102	12	-	-
-	48484 SC NK	-	48484 SCGV NK	48.00x48.00x4.00	1219x1219x102	10	-	-



Conduit Sizes

Knockout Detail

Note: See table for applicable knockout pattern.

Notes: Dimensions are in inches. Millimeters shown are for reference only. Data subject to change without notice.

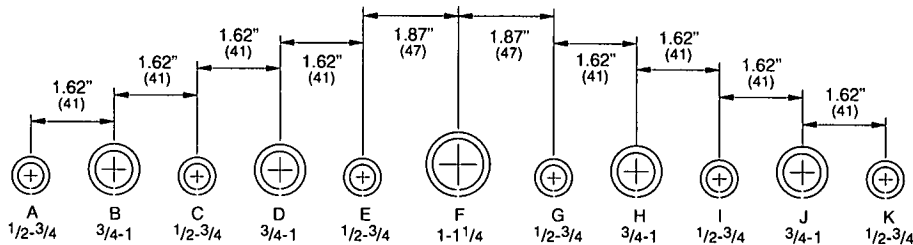
Type 1 Enclosures

Type 1 Screw Cover Enclosures - Painted & Galvanized

Catalog Number

Type 1 Enclosures

Enclosure Catalog Number				Enclosure Size		Gauge	Knockout Pattern	Knockout Pattern
Painted		Galvanized		Height x Width x Depth A x B x C				
KO	No KO	KO	No KO	in.	mm			
666 SC	666 SC NK	666 SCGV	666 SCGV NK	6.00x6.00x6.00	152x152x152	16	CDE	CDE
866 SC	866 SC NK	866 SCGV	866 SCGV NK	8.00x6.00x6.00	203x152x152	16	GHIJ	CDE
886 SC	886 SC NK	886 SCGV	886 SCGV NK	8.00x8.00x6.00	203x203x152	16	GHIJ	GHIJ
1086 SC	1086 SC NK	1086 SCGV	1086 SCGV NK	10.00x8.00x6.00	254x203x152	16	DEFGH	GHIJ
10106 SC	10106 SC NK	10106 SCGV	10106 SCGV NK	10.00x10.00x6.00	254x254x152	16	DEFGH	DEFGH
1266 SC	1266 SC NK	1266 SCGV	1266 SCGV NK	12.00x6.00x6.00	305x152x152	16	DEFGH	CDE
1286 SC	1286 SC NK	1286 SCGV	1286 SCGV NK	12.00x8.00x6.00	305x203x152	16	DEFGH	GHIJ
12106 SC	12106 SC NK	12106 SCGV	12106 SCGV NK	12.00x10.00x6.00	305x254x152	16	DEFGH	DEFGH
12126 SC	12126 SC NK	12126 SCGV	12126 SCGV NK	12.00x12.00x6.00	305x305x152	16	DEFGH	DEFGH
15126 SC	15126 SC NK	15126 SCGV	15126 SCGV NK	15.00x12.00x6.00	381x305x152	16	CDEFGHI	DEFGH
15156 SC	15156 SC NK	15156 SCGV	15156 SCGV NK	15.00x15.00x6.00	381x381x152	16	CDEFGHI	CDEFGHI
16126 SC	16126 SC NK	16126 SCGV	16126 SCGV NK	16.00x12.00x6.00	406x305x152	16	CDEFGHI	DEFGH
16166 SC	16166 SC NK	16166 SCGV	16166 SCGV NK	16.00x16.00x6.00	406x406x152	16	CDEFGHI	BCDEFGHIJ
18126 SC	18126 SC NK	18126 SCGV	18126 SCGV NK	18.00x12.00x6.00	457x305x152	16	BCDEFGHIJ	DEFGH
18156 SC	18156 SC NK	18156 SCGV	18156 SCGV NK	18.00x15.00x6.00	457x381x152	16	BCDEFGHIJ	CDEFGHI
18186 SC	18186 SC NK	18186 SCGV	18186 SCGV NK	18.00x18.00x6.00	457x457x152	16	BCDEFGHIJ	BCDEFGHIJ
24126 SC	24126 SC NK	24126 SCGV	24126 SCGV NK	24.00x12.00x6.00	610x305x152	16	BCDEFGHIJ	DEFGH
24186 SC	24186 SC NK	24186 SCGV	24186 SCGV NK	24.00x18.00x6.00	610x457x152	16	BCDEFGHIJ	BCDEFGHIJ
24246 SC	24246 SC NK	24246 SCGV	24246 SCGV NK	24.00x24.00x6.00	610x610x152	14	BCDEFGHIJ	BCDEFGHIJ
30186 SC	30186 SC NK	30186 SCGV	30186 SCGV NK	30.00x18.00x6.00	762x457x152	16	BCDEFGHIJ	BCDEFGHIJ
30246 SC	30246 SC NK	30246 SCGV	30246 SCGV NK	30.00x24.00x6.00	762x610x152	14	BCDEFGHIJ	BCDEFGHIJ
-	30306 SC NK	-	30306 SCGV NK	30.00x30.00x6.00	762x762x152	12	-	-
36246 SC	36246 SC NK	36246 SCGV	36246 SCGV NK	36.00x24.00x6.00	914x310x152	14	BCDEFGHIJ	BCDEFGHIJ
-	36306 SC NK	-	36306 SCGV NK	36.00x30.00x6.00	914x762x152	12	-	-
-	36366 SC NK	-	36366 SCGV NK	36.00x36.00x6.00	914x914x152	12	-	-
-	48366 SC NK	-	48366 SCGV NK	48.00x36.00x6.00	1219x914x152	12	-	-
-	48486 SC NK	-	48486 SCGV NK	48.00x48.00x6.00	1219x1219x152	12	-	-
888 SC	888 SC NK	888 SCGV	888 SCGV NK	8.00x8.00x8.00	203x203x203	16	GHIJ	GHIJ
12128 SC	12128 SC NK	12128 SCGV	12128 SCGV NK	12.00x12.00x8.00	305x305x203	16	DEFGH	DEFGH
16128 SC	16128 SC NK	16128 SCGV	16128 SCGV NK	16.00x12.00x8.00	406x305x203	16	CDEFGHI	DEFGH
18128 SC	18128 SC NK	18128 SCGV	18128 SCGV NK	18.00x12.00x8.00	457x305x203	16	BCDEFGHIJ	DEFGH
18188 SC	18188 SC NK	18188 SCGV	18188 SCGV NK	18.00x18.00x8.00	457x457x203	16	BCDEFGHIJ	BCDEFGHIJ
24128 SC	24128 SC NK	24128 SCGV	24128 SCGV NK	24.00x12.00x8.00	610x305x203	16	BCDEFGHIJ	DEFGH
24188 SC	24188 SC NK	24188 SCGV	24188 SCGV NK	24.00x18.00x8.00	610x457x203	16	BCDEFGHIJ	BCDEFGHIJ
24248 SC	24248 SC NK	24248 SCGV	24248 SCGV NK	24.00x24.00x8.00	610x610x203	14	BCDEFGHIJ	BCDEFGHIJ
30248 SC	30248 SC NK	30248 SCGV	30248 SCGV NK	30.00x24.00x8.00	762x610x203	14	BCDEFGHIJ	BCDEFGHIJ
-	30308 SC NK	-	30308 SCGV NK	30.00x30.00x8.00	762x762x203	12	-	-
36248 SC	36248 SC NK	36248 SCGV	36248 SCGV NK	36.00x24.00x8.00	914x610x203	14	BCDEFGHIJ	BCDEFGHIJ



Conduit Sizes

Knockout Detail

Note: See table for applicable knockout pattern.

Notes: Dimensions are in inches. Millimeters shown are for reference only. Data subject to change without notice.

Type 1 Enclosures

Type 1 Screw Cover Enclosures - Painted & Galvanized Catalog Number

Enclosure Catalog Number				Enclosure Size		Gauge	Knockout Pattern	Knockout Pattern
Painted		Galvanized		Height x Width x Depth A x B x C				
KO	No KO	KO	No KO	in.	mm			
121210 SC	121210 SC NK	121210 SCGV	121210 SCGV NK	12.00x12.00x10.00	305x305x254	16	DEFGH	DEFGH
181210 SC	181210 SC NK	181210 SCGV	181210 SCGV NK	18.00x12.00x10.00	457x305x254	16	BCDEFGHIJ	DEFGH
181810 SC	181810 SC NK	181810 SCGV	181810 SCGV NK	18.00x18.00x10.00	457x457x254	16	BCDEFGHIJ	BCDEFGHIJ
241210 SC	241210 SC NK	241210 SCGV	241210 SCGV NK	24.00x12.00x10.00	610x305x254	16	BCDEFGHIJ	DEFGH
241810 SC	241810 SC NK	241810 SCGV	241810 SCGV NK	24.00x18.00x10.00	610x457x254	16	BCDEFGHIJ	BCDEFGHIJ
242410 SC	242410 SC NK	242410 SCGV	242410 SCGV NK	24.00x24.00x10.00	610x610x254	14	BCDEFGHIJ	BCDEFGHIJ
302410 SC	302410 SC NK	302410 SCGV	302410 SCGV NK	30.00x24.00x10.00	762x610x254	14	BCDEFGHIJ	BCDEFGHIJ
-	303010 SC NK	-	303010 SCGV NK	30.00x30.00x10.00	762x762x254	12	-	-
362410 SC	362410 SC NK	362410 SCGV	362410 SCGV NK	36.00x24.00x10.00	914x610x254	14	BCDEFGHIJ	BCDEFGHIJ
181812 SC	181812 SC NK	181812 SCGV	181812 SCGV NK	18.00x18.00x12.00	457x457x305	16	BCDEFGHIJ	BCDEFGHIJ
241212 SC	241212 SC NK	241212 SCGV	241212 SCGV NK	24.00x12.00x12.00	610x305x305	16	BCDEFGHIJ	DEFGH
241812 SC	241812 SC NK	241812 SCGV	241812 SCGV NK	24.00x18.00x12.00	610x457x305	16	BCDEFGHIJ	BCDEFGHIJ
242412 SC	242412 SC NK	242412 SCGV	242412 SCGV NK	24.00x24.00x12.00	610x610x305	14	BCDEFGHIJ	BCDEFGHIJ
302412 SC	302412 SC NK	302412 SCGV	302412 SCGV NK	30.00x24.00x12.00	762x610x305	14	BCDEFGHIJ	BCDEFGHIJ
-	303012 SC NK	-	303012 SCGV NK	30.00x30.00x12.00	762x762x305	12	-	-
362412 SC	362412 SC NK	362412 SCGV	362412 SCGV NK	36.00x24.00x12.00	914x610x305	14	BCDEFGHIJ	BCDEFGHIJ
-	363612 SC NK	-	363612 SCGV NK	36.00x36.00x12.00	914x914x305	12	-	-

Type 1 Enclosures

Type 1 Flush & Surface Covers - Painted & Galvanized Catalog Number

Optional Flush Covers		Flush Cover Size		Fits Enclosure		Gauge	Replacement Surface Covers		Surface Cover Size		Fits Enclosure		Gauge
Catalog Number				A x B			Catalog Number				A x B		
Painted	Galvanized	in.	mm	in.	mm		Painted	Galvanized	in.	mm	in.	mm	
44 SCF	44 SCFGV	5.50x5.50	140x140	4.00x4.00	102x102	16	44 SCS	44 SCSGV	4.09x4.09	104x104	4.00x4.00	102x102	16
64 SCF	64 SCFGV	7.50x5.50	191x140	6.00x4.00	152x102	16	64 SCS	64 SCSGV	6.09x4.09	155x104	6.00x4.00	152x102	16
66 SCF	66 SCFGV	7.50x7.50	191x191	6.00x6.00	152x152	16	66 SCS	66 SCSGV	6.09x6.09	155x155	6.00x6.00	152x152	16
86 SCF	86 SCFGV	9.50x7.50	241x191	8.00x6.00	203x152	16	86 SCS	86 SCSGV	8.09x6.09	205x155	8.00x6.00	203x152	16
88 SCF	88 SCFGV	9.50x9.50	241x241	8.00x8.00	203x203	16	88 SCS	88 SCSGV	8.09x8.09	205x205	8.00x8.00	203x203	16
108 SCF	108 SCFGV	11.50x9.50	292x241	10.00x8.00	254x203	16	108 SCS	108 SCSGV	10.09x8.09	256x205	10.00x8.00	254x203	16
1010 SCF	1010 SCFGV	11.50x11.50	292x292	10.00x10.00	254x254	16	1010 SCS	1010 SCSGV	10.09x10.09	256x256	10.00x10.00	254x254	16
126 SCF	126 SCFGV	13.50x7.50	343x191	12.00x6.00	305x152	16	126 SCS	126 SCSGV	12.09x6.09	307x155	12.00x6.00	305x152	16
128 SCF	128 SCFGV	13.50x11.50	343x241	12.00x8.00	305x203	16	128 SCS	128 SCSGV	12.09x8.09	307x205	12.00x8.00	305x203	16
1210 SCF	1210 SCFGV	13.50x11.50	343x292	12.00x10.00	305x254	16	1210 SCS	1210 SCSGV	12.09x10.09	307x256	12.00x10.00	305x254	16
1212 SCF	1212 SCFGV	13.50x13.50	343x343	12.00x12.00	305x305	16	1212 SCS	1212 SCSGV	12.09x12.09	307x307	12.00x12.00	305x305	16
1612 SCF	1612 SCFGV	17.50x13.50	445x343	16.00x12.00	406x305	14	1612 SCS	1612 SCSGV	16.09x12.09	409x307	16.00x12.00	406x305	16
1616 SCF	1616 SCFGV	17.50x17.50	445x445	16.00x16.00	406x406	14	1616 SCS	1616 SCSGV	16.09x16.09	409x409	16.00x16.00	406x406	16
1812 SCF	1812 SCFGV	19.50x13.50	495x343	18.00x12.00	457x305	14	1812 SCS	1812 SCSGV	18.09x12.09	459x307	18.00x12.00	457x305	16
1815 SCF	1815 SCFGV	19.50x16.50	495x419	18.00x15.00	457x381	14	1815 SCS	1815 SCSGV	18.09x15.09	459x383	18.00x15.00	457x381	16
1818 SCF	1818 SCFGV	19.50x19.50	495x495	18.00x18.00	457x457	14	1818 SCS	1818 SCSGV	18.09x18.09	459x459	18.00x18.00	457x457	16
2412 SCF	2412 SCFGV	25.50x13.50	648x343	24.00x12.00	610x305	14	2412 SCS	2412 SCSGV	24.09x12.09	612x307	24.00x12.00	610x305	16
2418 SCF	2418 SCFGV	25.50x19.50	648x495	24.00x18.00	610x457	12	2418 SCS	2418 SCSGV	24.09x18.09	612x459	24.00x18.00	610x457	14
2424 SCF	2424 SCFGV	25.50x24.50	648x622	24.00x24.00	610x610	12	2424 SCS	2424 SCSGV	24.09x24.09	612x612	24.00x24.00	610x610	14

Notes: Dimensions are in inches. Millimeters shown are for reference only. Data subject to change without notice.

SUBMITTAL SUMMARY SHEET

UAF FACILITIES SERVICES
DIV. OF DESIGN AND CONSTRUCTION

University of Alaska Fairbanks
CTC-Parking Garage Renovations
Job No.: 2013190 CTCPGR

JUL 12 2013

1. Item No.: 3
2. Specification Section/Drawing No./Detail No.: 7
3. Name of Item/Drawing Equipment No.: Conductors & Cables
4. Manufacturer/Model No.: Various
5. Use/Location (if not obvious):¹ As Specified
6. Supplier: Total Electric Supply Company
2100 S Cushman Street
Fairbanks, AK 99701
7. Subcontractor: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
8. Provider(s) of Warranty Service: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
9. Proposed Deviation from the Contract Documents:² _____
10. Other Contractor Comments: _____

CONTRACTOR REVIEW:

CONSULTANT REVIEW:

(Contractor)

Reviewed By: ASS
(Signature)

Title: _____

Date: _____

¹ This information must be given for items provided under Specification Sections 23 50 00 and 23 09 00, even if obvious.

² Entry must be made; if "none," so note.

Engineering Specifications:

Standards:

Underwriters Laboratories Standard UL-83, UL-1063, UL-758
AWM Spec 1316, 1317, 1318, 1319, 1320, 1321
ASTM Stranding Class B3, B8, B787
Federal Specification A-A-59544
Canadian Standards Association C22.2 No. 75
NEMA WC70/ICEA S-95-658



Listed Solid E-123774
Stranded E-156879

Construction:

Conductors:

Solid, uncoated copper conductors per ASTM-B3
Stranded, uncoated copper conductors per ASTM-B3, ASTM-B787 and ASTM-B8

Insulation:

Color-coded Polyvinyl Chloride (PVC), heat- and moisture-resistant, flame-retardant compound per UL-1063 and UL-83

Applications:

Type THHN-THWN-2 building wire is intended for general purpose applications as defined by the National Electrical Code (NEC). Suitable for new construction or rewiring for 600-volt applications. When used as type THHN or THWN-2, the conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C in oil or coolants. When used as type MTW, conductor is suitable for use in dry locations at 90°C, or not to exceed 60°C in wet locations or where exposed to oils or coolants. When used as type AWM temperatures should not exceed 105°C in dry locations.

Features:

Slick, Nylon outer jacket for easy pulling. VW-1 rated 14 AWG - 1 AWG. 1/0 AWG and larger is rated for CT use. 6 AWG and larger is rated for sunlight resistance in all colors. All sizes are rated "Gasoline and oil resistant II."

Jacket:

A tough, polyamide, Nylon outer covering per UL-1063 and UL-83.

Size (AWG or kcmil)	Number of Strands	Conductor Size (mm ²)	Insulation Thickness (inches)		Outside Diameter		Allowable Ampacities*			Approx. Net Weight (lbs./1000 ft.)	Standard Packaging
			PVC	Nylon	(inches)	(mm)	60°C	75°C	90°C		
14	Solid	2.08	.015	.004	.101	2.57	15	15	15	15	2000 carton (4x500), 2500' reels
12	Solid	3.31	.015	.004	.120	3.05	20	20	20	23	2000 carton (4x500), 2500' reels
10	Solid	5.26	.020	.004	.149	3.78	30	30	30	37	1000 carton (2x500), 2500' reels
14	19	2.08	.015	.004	.109	2.77	15	15	15	17	2000 carton (4x500), 2500' reels
12	19	3.31	.015	.004	.127	3.23	20	20	20	24	2000 carton (4x500), 2500' reels
10	19	5.26	.020	.004	.160	4.07	30	30	30	38	1000 carton (2x500), 2500' reels
8	19	8.37	.030	.005	.212	5.39	40	50	55	63	500' 1000' 2500' 5000' reels
6	19	13.3	.030	.005	.248	6.30	55	65	75	95	500' 1000' 2500' 5000' 25,000' reels
4	19	21.2	.040	.006	.317	8.06	70	85	95	153	500' 1000' 2500' 5000' 20,000' reels
3	19	26.7	.040	.006	.344	8.74	85	100	110	189	500' 1000' 2500' 5000' 15,000' reels
2	19	33.6	.040	.006	.375	9.53	95	115	130	234	500' 1000' 2500' 5000' 14,000' reels
1	19	42.4	.050	.007	.435	11.05	110	130	150	299	500' 1000' 2500' 5000' 22,000' reels
1/0	19	53.5	.050	.007	.474	12.04	125	150	170	372	500' 1000' 2500' 5000' 16,000' reels
2/0	19	67.4	.050	.007	.518	13.16	145	175	195	462	500' 1000' 2500' 5000' 14,000' reels
3/0	19	85.0	.050	.007	.568	14.43	165	200	225	572	500' 1000' 2500' 5000' 12,000' reels
4/0	19	107	.050	.007	.624	15.85	195	230	260	712	500' 1000' 2500' 5000' 9000' reels
250	37	127	.060	.008	.678	17.23	215	255	290	851	500' 1000' 2500' 4000' 8500' reels
300	37	152	.060	.008	.730	18.55	240	285	320	1010	500' 1000' 3500' 7500' reels
350	37	177	.060	.008	.777	19.74	260	310	350	1170	500' 1000' 3000' 6000' reels
400	37	203	.060	.008	.821	20.86	280	335	380	1330	500' 1000' 3000' 5000' reels
500	37	253	.060	.008	.902	22.91	320	380	430	1650	500' 1000' 2500' 4000' reels
600	61	304	.070	.009	1.051	26.70	355	420	475	1985	500' 1000' 2000' 3000' reels
750	61	380	.070	.009	1.156	29.37	400	475	535	2455	500' 1000' 1500' 2500' reels
1000	61	507	.070	.009	1.310	33.28	455	545	615	3252	500' 1000' 2000' reels

*Allowable ampacity shown above is per the National Electrical Code. The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND:

SOLID CONDUCTOR SIZES 14 AWG THROUGH 10 AWG: E123774 (size) AWG TYPE THHN OR THWN-2 GR II VW-1 600 VOLTS (UL) OR AWM OR C-(UL) TYPE T90 NYLON OR TWN 75 FT1. DATE/TIME/OPER/QC
STRANDED CONDUCTOR SIZES 14 AWG THROUGH 8 AWG: E156879 (size) AWG TYPE MTW OR THHN OR THWN-2 GR II VW-1 600 VOLTS (UL) OR AWM OR C-(UL) TYPE T90 NYLON OR TWN 75 FT1. DATE/TIME/OPER/QC
STRANDED CONDUCTORS-SIZES 6 AWG THROUGH 1 AWG: E156879 (size) TYPE MTW OR THHN OR THWN-2 GR II SUN RES VW-1 600 VOLTS (UL) OR AWM OR C-(UL) TYPE T90 NYLON OT TWN 75 FT1. DATE/TIME/OPER/QC
CONDUCTOR SIZES 1/0 AWG THROUGH 1000 KCMIL: E156879 (size) TYPE MTW OR THHN OR THWN-2 GR II SUN-RES FOR CT USE (UL) OR C-(UL) TYPE T90 NYLON OR TWN 75 FT1. DATE/TIME/OPER/QC

XHHW-2 / RW90 COPPER CONDUCTOR

Engineering Specifications:

Standards:

Underwriters Laboratories Standard UL-44
 Canadian Standard C22.2 No. 38



Listed E-177544

Institute of Electrical and Electronics Engineers IEEE 1202
 Federal Specification A-A-59544
 NEMA WC-70/ICEA S-95-658
 NFPA 70: National Electrical Code

Construction:

Conductors:

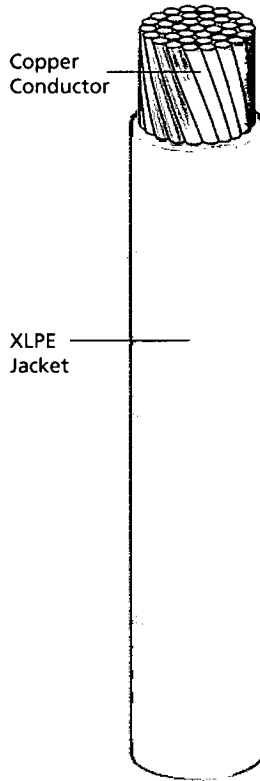
Stranded, uncoated bare copper per ASTM-B3, ASTM-B787 and ASTM-B8

Insulation:

Cross-linked polyethylene (XLPE) insulation per UL-44

Applications:

Type XHHW-2 conductors are primarily used in conduit or other recognized raceways for services, feeders, and branch-circuit wiring, as specified in the National Electrical Code (NEC). XHHW-2 conductors may be used in wet or dry locations at temperatures not to exceed 90°C. XHHW-2 conductors are rated for 600 volts. Suitable for use in low-leaking circuits requiring a dielectric constant of 3.5 or less. Compound is rated sunlight resistant in all colors. All cables comply with UL's VW-1 (Vertical-Wire) Flame Test. Cables pass IEEE 1202/CSA (70,000 BTU/hr) cable tray flame test. 1/0 AWG and larger may be used in cable tray in accordance with the National Electrical Code.



Size (AWG or kcmil)	Number of Strands	Insulation Thickness XLPE (Inches)	Outside Diameter		Allowable Ampacities**			Approx. Net Weight (lbs./1000 ft.)	Standard Packaging
			(Inches)	(mm)	60°C	75°C	90°C		
14	19	.030	.131	3.33	15	15	15	18	2000' carton (4x500'), 2500' reels
12	19	.030	.149	3.79	20	20	20	25	1000' carton (2x500'), 2500' reels
10	19	.030	.172	4.37	30	30	30	40	500' spools, 2500' reels
8	7*	.045	.236	6.00	40	50	55	67	500' 1000' 2500' 5000' reels
6	7*	.045	.274	6.96	55	65	75	100	500' 1000' 2500' 5000' reels
4	7*	.045	.322	8.18	70	85	95	150	500' 1000' 2500' 5000' reels
3	7*	.045	.350	8.89	85	100	110	205	500' 1000' 2500' 5000' reels
2	7*	.045	.382	9.71	95	115	130	230	500' 1000' 2500' 5000' reels
1	19	.055	.431	10.95	110	130	150	291	500' 1000' 2500' 5000' reels
1/0	19	.055	.470	11.94	125	150	170	362	500' 1000' 2500' 5000' reels
2/0	19	.055	.514	13.06	145	175	195	445	500' 1000' 2500' 5000' reels
3/0	19	.055	.564	14.33	165	200	225	564	500' 1000' 2500' 5000' reels
4/0	19	.055	.620	15.75	195	230	260	707	500' 1000' 2500' 5000' reels
250	37	.065	.672	17.07	215	255	290	836	500' 1000' 2500' 4000' reels
300	37	.065	.724	19.39	240	285	320	996	500' 1000' 3500' reels
350	37	.065	.771	19.59	260	310	350	1155	500' 1000' 3000' reels
400	37	.065	.815	20.71	280	335	380	1315	500' 1000' 3000' reels
500	37	.065	.896	22.76	320	380	430	1632	500' 1000' 2500' reels
600	61	.080	1.026	26.06	355	420	475	1950	500' 1000' 2000' reels
750	61	.080	1.128	28.66	400	475	535	2440	500' 1000' 1500' reels
1000	61	.080	1.277	32.44	455	545	615	3230	500' 1000' reels

*8 AWG-2 AWG: 19/w is available by request.

**Allowable ampacity shown above is per the National Electrical Code. The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND:

STRANDED CONDUCTORS 14 AWG THROUGH 1 AWG.

E177544 (size) TYPE XHHW-2 GASOLINE AND OIL RESISTANT II VW-1 600 VOLTS XLPE (UL) OR C-(UL) TYPE RW 90 XLPE. DATE/TIME/OPER/QC

STRANDED CONDUCTORS 1/0 AWG THROUGH 1000 KCMIL.

E177544 (size) TYPE XHHW-2 GASOLINE AND OIL RESISTANT II VW-1 600 VOLTS XLPE (UL) FOR CT USE OR IEEE 1202 OR C-(UL) TYPE RW90 XLPE FT4 DATE/TIME/OPER/QC

XHHW-2 / RW90 COPPER CONDUCTOR

800.962.9473

SUBMITTAL SUMMARY SHEET

UAF FACILITIES SERVICES
DIV. OF DESIGN AND CONSTRUCTION

University of Alaska Fairbanks
CTC-Parking Garage Renovations
Job No.: 2013190 CTCPGR

JUL 12 2013

1. Item No.: 4
2. Specification Section/Drawing No./Detail No.: 8
3. Name of Item/Drawing Equipment No.: Wiring Devices (N/A)
4. Manufacturer/Model No.: _____
5. Use/Location (if not obvious):¹ As Specified
6. Supplier: N/A
7. Subcontractor: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
8. Provider(s) of Warranty Service: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
9. Proposed Deviation from the Contract Documents:² _____
10. Other Contractor Comments: This Section is Not Applicable to Project

CONTRACTOR REVIEW:

(Contractor)

Reviewed By: ASS
(Signature)

Title: _____

Date: _____

¹ This information must be given for items provided under Specification Sections 23 50 00 and 23 09 00, even if obvious.

² Entry must be made; if "none," so note.

CONSULTANT REVIEW:

SUBMITTAL SUMMARY SHEET

UAF FACILITIES SERVICES
DIV. OF DESIGN AND CONSTRUCTION

University of Alaska Fairbanks
CTC-Parking Garage Renovations
Job No.: 2013190 CTCPCR

JUL 12 2013

1. Item No.: 5
2. Specification Section/Drawing No./Detail No.: 9
3. Name of Item/Drawing Equipment No.: Telecommunications
4. Manufacturer/Model No.: Various
5. Use/Location (if not obvious):¹ As Specified
6. Supplier: Total Electric Supply Company
2100 S Cushman Street
Fairbanks, AK 99701
7. Subcontractor: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
8. Provider(s) of Warranty Service: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
9. Proposed Deviation from the Contract Documents:² _____
10. Other Contractor Comments: _____

CONTRACTOR REVIEW:

(Contractor)

Reviewed By: KS

(Signature)

Title: _____

Date: _____

¹This information must be given for items provided under Specification Sections 23 50 00 and 23 09 00, even if obvious.

²Entry must be made; if "none," so note.

CONSULTANT REVIEW:

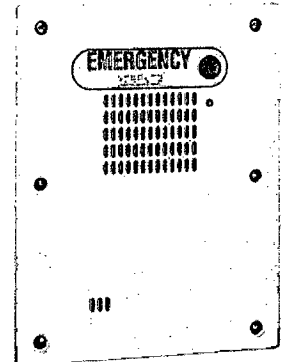
ETP-400 – Single Button Emergency Phone

Description

The **ETP-400** is an outdoor-rated, ADA-compliant hands-free Emergency Phone for use in locations such as: parking facilities, college campuses, controlled access gates, medical centers and industrial parks.

Features

- Cast metal raised letter and Braille signage for ADA compliance
- Vandal resistant stainless steel faceplate and metal button
- Uses regular phone lines or PBX
- Phone line powered: no power supply or battery back-up needed
- Circuit boards are conformally coated for water protection
- LED indicator for hearing impaired
- Auxiliary input and outputs to integrate with CCTV, Blue Light Strobe, Scream Alert™ and other devices
- Built-in auto-dialer can dial two numbers: if first number doesn't answer or is busy, dials second number
- Auto-answer allows security to monitor and initiate calls with Emergency Phone
- Options available that offer the ability to automatically identify attendant of location of calling phone by recorded message and digital display



ETP-400

Specifications

Construction:	12 gauge (2.8mm) #4 brushed stainless steel faceplate
Dimensions:	Front Panel: 9.5(241) W x 11.75(298) H in(mm) Back Box: 6.63(168) W x 9.75(248) H x 2.5(64) D in(mm)
Weight:	8 lbs. (3.6kg)
Operating Temperature:	-4°F to +149°F (-20°C to +65°C)
Mounting:	Flush mounts (surface mount options available)
Communication:	2-way hands-free communication
Digit Capacity:	Up to 18 digits, including pauses, for each of two phone numbers
Dialing Speed:	Approximately 10 tones per second
Power Source:	Phone line powered (requires 20mA at 24 v off-hook)
Connection:	Parallel tip and ring connected to RJ11 connector for quick installation
Circuit Protection:	Varistor lightening suppressed and full wave polarity guarded
Programming:	Non-volatile EEPROM programming can be done from any telephone No battery back up is needed
"On Time":	Programmable from 1-4270 minutes in 1-minute increments
Recommended Wiring:	1 twisted-shielded pair
Compliance:	CSA Certified to UL Standard 60950

Options & Accessories

Voice Location Identifier:	Model ETP-400V includes the capability to record a message identifying the location of the call. Message is recorded and duration set during programming
"TO CALL" Casting:	Use Model ETP-400C for a button that reads TO CALL instead of EMERGENCY
8-Line Consolidator:	Model EC-8 allows connection of up to 8 phones on one phone line while retaining ability to call each phone individually. Can also create a closed system without need for any phone lines
Monitoring/Diagnostic Software Package:	Talk-A-Lert®, model ETP-TAL , automatically polls each Emergency Phone, reports incoming calls and keeps permanent records of all events
Faceplate Camera:	Add "OP3" to model number to add a color pinhole camera mounted discreetly behind the faceplate. Add "OP3BW" for a b/w camera

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Talk-A-Phone Co. • 7530 North Natchez Avenue • Niles, Illinois 60714-3804
 Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
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Rev. 10/28/09



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TALK A PHONE

Creating Communications Solutions

EMERGENCY PHONE ACCESSORIES

ETP-UPS – Back-Up Power Supply

Description

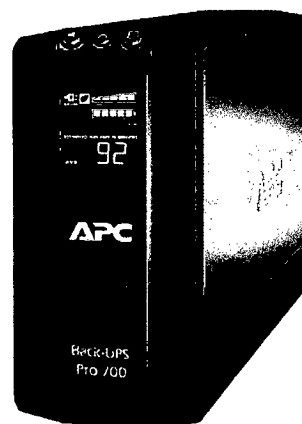
The **ETP-UPS** is a back-up power supply designed for use with an **EC-8** Consolidator.

Features

- Offers 10 hours of battery back-up for an **EC-8** Consolidator
- Provides surge protection and noise filtering
- Tone indicates battery in use due to power failure
- Includes connection for additional surge protection
- Three output connections

Specifications

Power Capacity:	700 VA/420 Watts at 120VAC
Recharge Time:	12 hours (typical)
Surge Energy Rating:	354 Joules
Waveform:	Stepped approximation to a sine wave
Dimensions:	7.48(190) H x 3.58(91) W x 12.20(310) D in(mm)
Weight:	15.76lbs.(7.15kg)
Operating Temp.:	0 to 40°C (32 to 104°F)
Relative Humidity:	0 to 95%
Regulatory Approvals:	FCC Part 15 Class B, FCC Part 68, NOM, UL 1778
Environmental Compliance:	RoHS, REACH: Contains No SVHCs



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Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com

All prices and specifications are subject to change without notice.

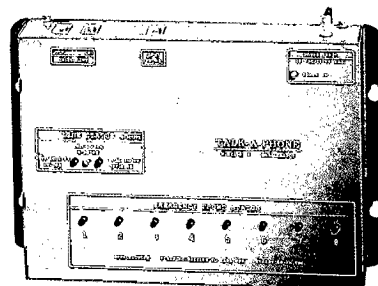
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Rev. 11/3/10

EC-8 – Emergency Phone Consolidator

Description

Model **EC-8** Consolidator allows up to eight Talk-A-Phone 100-Series or 400-Series Emergency Phones to utilize one phone line without reduction in volume. Also can be used to create an internal communication system without need for any phone lines.



Features

- Can call an outside phone, ring a local phone or alternate between the two
- Line seizure eliminates need for dedicated phone line
- Use a standard phone set as a guard phone to create an internal communication system
- Queues second and subsequent calls: when first call is completed, next in line is immediately connected
- LED light to indicate location of incoming calls and blink for queued calls
- Built-in auxiliary outputs for activating devices when Consolidator receives calls and when call is answered

Specifications

Dimensions: 11.63(241) W x 7.75(298) H x 2.0(51) D in(mm)
 Weight: 6 lbs. (2.7 kg)
 Mounting: Designed for Wall Mounting
 Power: 120VAC 60Hz power supply (1.67 amps)
 Wiring: Resistance of wire from Emergency Phone to **EC-8** should not exceed 25 ohms

Options & Accessories

Backup Power Supply: Model **ETP-UPS** is recommended to support an **EC-8** for up to 4 hours
 Punch-down Block: Order model **ETP-DMRK** for easy connection of Emergency Phones to **EC-8**

Wiring Requirements

<u>Distance from EC-8 to Emergency Phone</u>				<u>Wire Gauge</u>
0-500	feet	(0-150	meters)	24G
500-750	feet	(150-230	meters)	22G
750-1000	feet	(230-300	meters)	20G
1000-1800	feet	(300-550	meters)	18G
1800-3000	feet	(550-900	meters)	16G
3000-5000	feet	(900-1500	meters)	14G

<u>Distance from EC-8 to Local Phone</u>				<u>Wire Gauge</u>
0-1000	feet	(0-300	meters)	24G
1000-1500	feet	(300-450	meters)	22G
1500-2000	feet	(450-600	meters)	20G
2000-3600	feet	(600-1100	meters)	18G
3600-5000	feet	(1100-1500	meters)	16G

Note: The EC-8 Consolidator is not compatible with VoIP products.

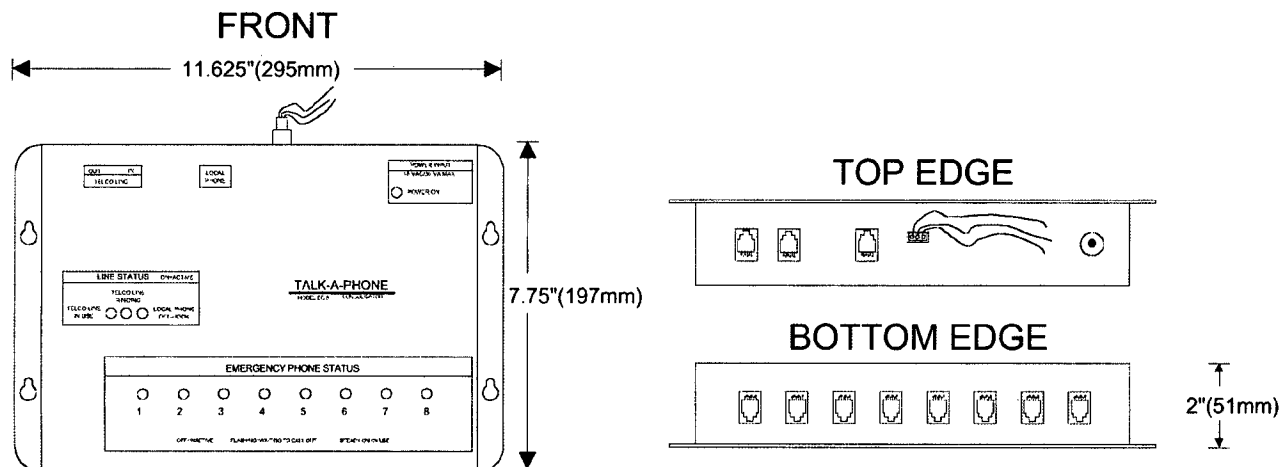
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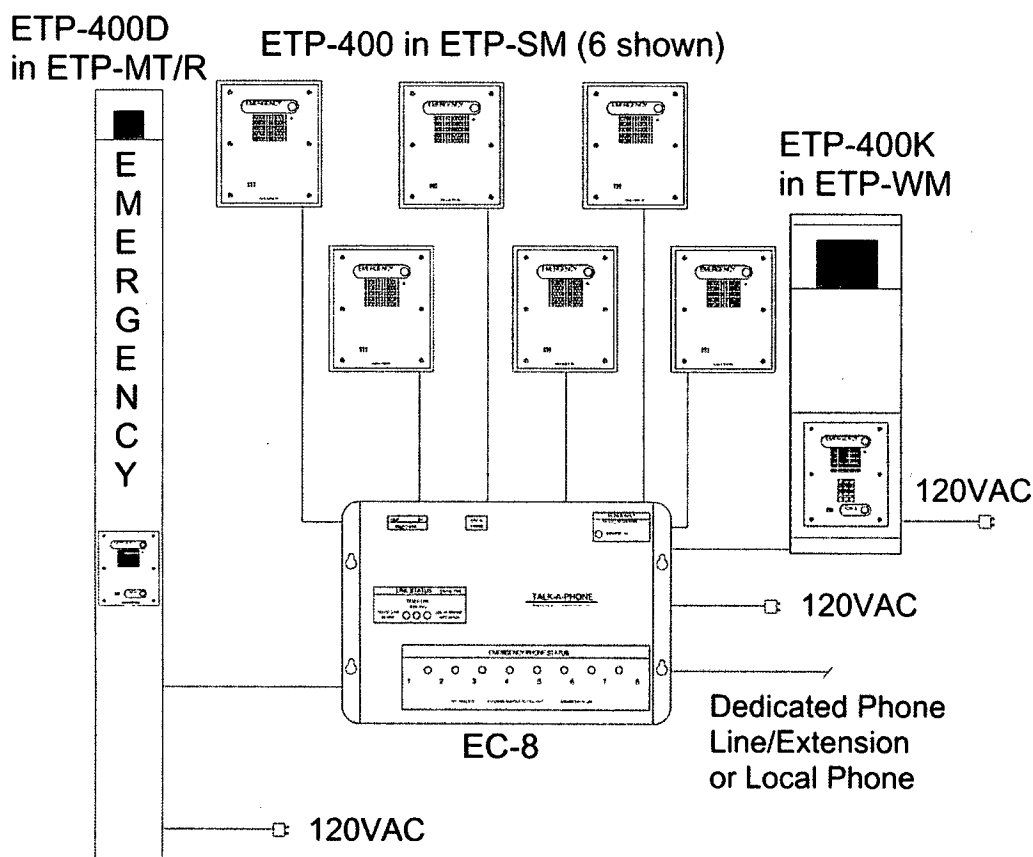
Rev. 9/1/10

EC-8 – Emergency Phone Consolidator

Dimensions



Typical Layout



All communication cables 1 pair, twisted shielded. Gauge depends on distance.

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Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com

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EMERGENCY PHONE MOUNTS

ETP-WM – Wall Mount Emergency Phone Station

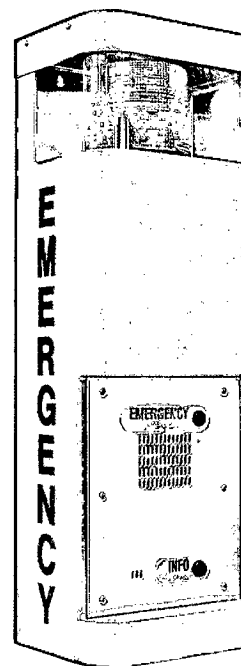
Description

Talk-A-Phone's ETP-WM Wall Mount Emergency Phone Station is an ideal security solution for remote and high-risk areas. The unit offers contemporary architectural styling and is constructed out of durable stainless steel. An always-lit LED Blue Light provides high visibility and gives passers-by a sense of security. Patrons can call emergency personnel with a simple push of a button. At the same time, the LED Blue Light begins to flash, attracting attention to the location. The Emergency Phone faceplate is illuminated at all times for clear visibility during the night.

Talk-A-Phone's ETP-WM Wall Mount Emergency Phone Stations are often used at university and college campuses, parking facilities, shopping malls, medical centers, industrial campuses and transit facilities.

Features

- Attention-getting LED Blue Light is included and mounted inside a polycarbonate housing. The LED Blue Light is continuously lit and flashes for duration of a call when "EMERGENCY" button is pressed to draw attention to the unit.
- Emergency Phone faceplate is illuminated at all times by an LED Panel Light
- Vandal-resistant stainless steel construction
- Designed to resist extreme weather conditions
- A variety of signage, graphics and color choices are available
- ADA-compliant



Specifications

Dimensions (W x D x H):	10.5 x 8.1 x 31.9 in. (267 x 206 x 810 mm)
Weight:	41 lbs. (18.6 kg)
Construction:	12GA (.105 in.) brushed stainless steel with impact-resistant polycarbonate lens and resistance to UV-fade
Colors:	Brushed stainless steel is standard. Available painted in custom colors.
Signage:	2 in. high reflective red "EMERGENCY" lettering with wide-angle visibility is standard. Available as "ASSISTANCE", "INFORMATION", or custom lettering, colors and graphics.
Lighting:	LED Blue Light: 209 lumens peak, 78 flashes per minute, 70% of initial lumens after 50,000 hours of operation LED Panel Light: Ultra bright LEDs, 50,000 hour lifetime
Power:	LED Blue Light: 7.8 watts, 120VAC 7.8 watts, 12-24VDC/24VAC LED Panel Light: 1.2 watts, 12-120VAC/DC
Mounting:	Mounts to a wall or straps to a pole or a kiosk
Compliance:	CSA Certified to UL Standard 60950
Warranty:	2-year warranty

ETP-WM – Wall Mount Emergency Phone Station

Options

ETP-WM Configuration	Emergency Phone Options	Wall Mount Options
Analog Connectivity	ETP-400 Series Phone	ETP-WM-OP2 includes a housing for mounting your own fixed CCTV camera inside the wall mount above the emergency phone faceplate.
IP Connectivity	VOIP-500 Series Phone	ETP-WM-OP3 includes a Honeywell fixed day/night CCTV camera inside the wall mount above the emergency phone faceplate.

ETP-WM includes an LED Blue Light and an LED Panel Light. Emergency Phone is purchased separately.

Accessories

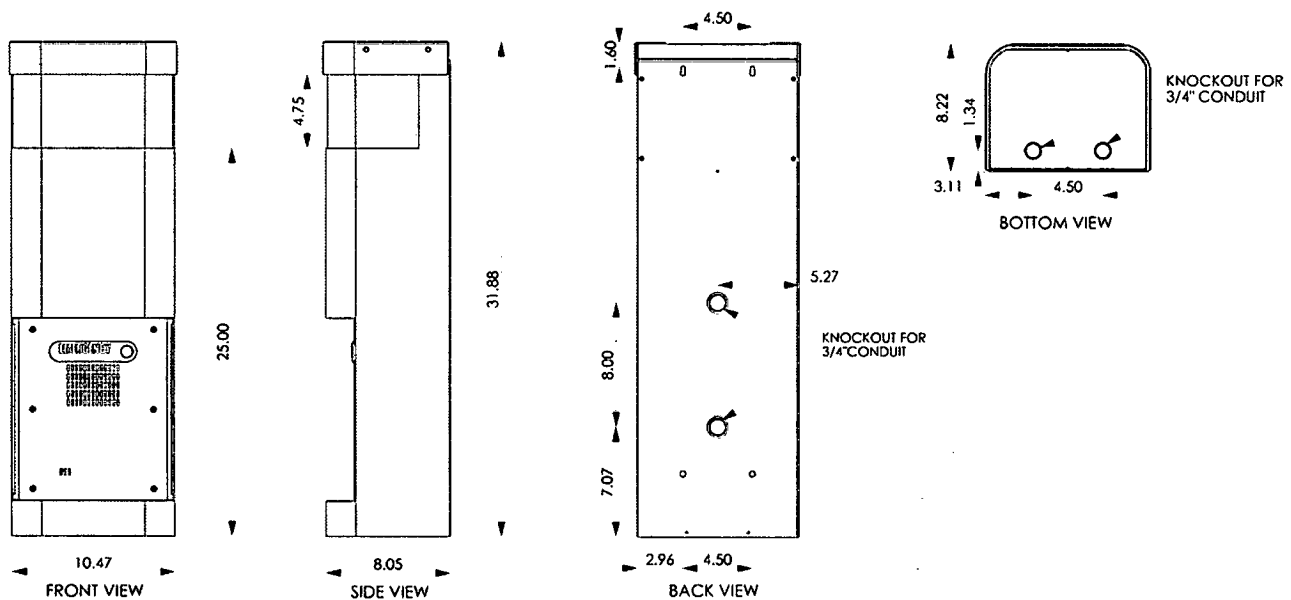
Pole Mounting Kit:

Order **ETP-PMKT** Pole Mounting Kit for strapping ETP-WM to a pole.

Strapping Tool:

Order **ETP-PMKT-TOOL** Strapping Tool for use with **ETP-PMKT** Pole Mounting Kit.

Dimensional Diagram



All dimensions are in inches and are provided for reference only.

Faceplate Heater Accessory

Description

This built in faceplate heater is available with most outdoor emergency phones (call for specific models). To order, add HTR to the model number of the phone.

Features

- Pre-installed into emergency phone
- Built-in thermostat
- 120VAC power supply included

Specifications

Output Power: 24VDC, 1 Amp (power supply included)
Input: 120VAC
Heater: 20W (6.6 watts for keypad version)
Temperature: Heater set to activate at 45°F

SUBMITTAL SUMMARY SHEET

UAF FACILITIES SERVICES
DIV. OF DESIGN AND CONSTRUCTION

University of Alaska Fairbanks
CTC-Parking Garage Renovations
Job No.: 2013190 CTCPR

JUL 12 2013

- | | | |
|--|--|--|
| | | |
| | | |
| | | |
1. Item No.: 6
 2. Specification Section/Drawing No./Detail No.: 10
 3. Name of Item/Drawing Equipment No.: Identification
 4. Manufacturer/Model No.: 3M
 5. Use/Location (if not obvious):¹ As Specified
 6. Supplier: Total Electric Supply Company
2100 S Cushman Street
Fairbanks, AK 99701
 7. Subcontractor: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
 8. Provider(s) of Warranty Service: Fullford Electric, Inc.
303 E Van Horn Road
Fairbanks, AK 99701
 9. Proposed Deviation from the Contract Documents:² _____
 10. Other Contractor Comments: _____

CONTRACTOR REVIEW:

(Contractor)
Reviewed By: ASS
(Signature)

Title: _____

Date: _____

¹This information must be given for items provided
under Specification Sections 23 50 00 and 23 09 00,
even if obvious.

²Entry must be made; if "none," so note.

CONSULTANT REVIEW:

3M™ Portable Labeler

Refill Cartridge PLV

Colored Vinyl Tape for use in the PL100, PL200, PL300 Printers

Data Sheet

May 2010

Description 3M™ Portable Labeler Refill Cartridge PLV is a .007 mil colored vinyl tape formulated with a permanent acrylic adhesive and a topcoat specifically for thermal transfer printing. The vinyl tape exists in five different colors: white, yellow, orange, red, and green. The tape can be recommended for outdoor usage and is available in 3/8, 1/2, and 3/4 inch widths.

Applications Colored vinyl tape is typically used for general labeling (patch panels, electrical panels, datacom racks, etc.) and asset labeling.

Typical Properties Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Property (Test Method)	Unit	Value	
General (Micrometer) Total thickness	Micron	185 ± 6%	
Adhesive Properties (PSTC-1) To stainless steel To glass To PVC To textured ABS To powder coated steel To steel computer casing To polyethylene	N/25mm	24 Hrs 23 23 24 22 19 18 10	72 Hrs 25 26 25 25 23 25 10
UV Light Stability of Label 30 days with UV light in Suntester (corresponds with 1 year real-life exposure)	No visible effect on print or background. Slight shrinkage of the material.		
Chemical Resistance of Text Printed in PL300 (Crockmeter, 900g weight/arm) Fuel Gasoline Isopropyl Alcohol Ethanol Water Ethylacetate	30x 30x 30x 30x 30x 5x	No visible effect No visible effect No visible effect No visible effect No visible effect Printing gone	
Abrasion Resistance of Text Printed in PL300 (Crockmeter, 900g weight/arm) Pencil Erasure Polystyrene Pin Sandpaper	30x 30x 30x	No visible effect No visible effect Slight print removal	

3M™ Portable Labeler Refill Cartridge PLV

Typical Properties, *continued*

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

Property (Test Method)	Value
Temperature Stability Application temperature	Above 10 °C
Service temperature 30 days in consumer freezer	No visible effect
30 days @ 90°C (194°F)	Slight discoloration of the background. No visible effect on print.
5 minutes at 145°C (293°F)	Severe shrinkage of the material. No visible effect on print or background.
Humidity Resistance of Applied Label 30 days @ 40°C (104°F), 95% R.H.	No visible effect on print or background. Slight shrinkage of the material.

Shelf Life & Storage

This product has an 18-month shelf life from date of shipment when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

Availability

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-245-3573.

Important Notice

Before utilizing any of 3M's products, you should determine the suitability of the product for your intended use. You assume all risks and liability associated with such use.

Warranty; Limited Remedy; Limited Liability

This product will be free from defects in material and for a period of 30 days from the time of purchase. If this product is defective, your exclusive remedy shall be, at 3M's option, to replace the 3M product or refund the purchase price. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

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Austin, TX 78726-9000
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www.3m.com/electrical

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