



FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

TPa-b. TP Series Surge Protectors.

IS / I,II,III / 1 / ABCDEFG / T* Ta = 60°C - 801640**; Entity;
I / 0 / AEx ia / IIC / T* Ta = 60°C - 801640**; Entity;
XP / I / 1 / ABCD / T6 Ta = 60°C; DIP / II,III / 1 / EFG / T6 Ta = 60°C;
NI / I / 2 / ABCD / T6 Ta = 60°C;
NI / I / 2 / IIC / T6 Ta = 60°C; S / II / 2 / FG / T6 Ta = 60°C; Type 4X

Entity Parameter Models 48, 48-3, 48-4, P48: Vmax = 60V, Imax = 250 mA, Pi = 1.2W, Ci = 0, Li = 0

Entity Parameter Models 24/7, 32, P32: Vmax = 17.5V, Imax = 183 mA, Pi = 2.56W, Ci = *, Li = 0

* For b = T-, Ci = 1.1 µf, T* = T4 else Ci = 0, T* = T6

a = Model: 24/7, 32, 48, 48-3, 48-4, P32, P48,

b = Connection: N, N-NDI, I, I-NDI, T-N, T-I, T-N-NDI, T-I-NDI, G-NDI

FP32. FP Series Surge Protectors.

IS / I, / 1 / ABCD / T4 Ta=60°C - 500182; Entity, Fisco
I / 0 / AEx ia / IIC / T4 Ta = 60°C - 500182; Entity, Fisco
I / 0 / AEx ia / IIB / T3 Ta = 60°C - 500182; Entity, Fisco
NI / I / 2 / ABCD / T6 Ta = 60°C;
NI / I / 2 / IIC / T6 Ta = 60°C

Entity Parameter: Vmax = 17.5V, Imax = 183 mA, Pi = 2.56W, Ci = 0, Li = 0

Fisco Parameter: Vmax = 17.5V, Imax = 380 mA, Pi = 5.32W, Ci = 0, Li = 0

Special Condition of use

The FP series shall be installed in compliance with the enclosure, mounting, and spacing, and segregation requirement of the ultimate application.



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IOPab. IOP Series Surge Protectors.

IS / I, / 1 / ABCD / T4 Ta=60°C - 801689; Entity,
I / 0 / AEx ia / IIC / T4 Ta = 60°C - 801689; Entity,
I / 0 / AEx ia / IIB / T3 Ta = 60°C - 801689; Entity,
NI / I / 2 / ABCD / T6 Ta = 60°C,
NI / I / 2 / IIC / T6 Ta = 60°C

a = Model: 32
b = D, Blank

Entity Parameter: $U_i = 32V$, $I_i = 250 \text{ mA}$, $P_i = 1.2W$, $C_i = 0$, $L_i = 0$

Special Condition of use

The IOP series shall be installed in compliance with the enclosure, mounting, and spacing, and segregation requirement of the ultimate application.

SLPab. SLP Series Surge Protectors.

IS / I, / 1 / ABCD / T4 Ta=60°C - 801744; Entity,
I / 0 / AEx ia / IIC / T4 Ta = 60°C - 801744; Entity,
I / 0 / AEx ia / IIB / T3 Ta = 60°C - 801744; Entity,
NI / I / 2 / ABCD / T6 Ta = 60°C,
NI / I / 2 / IIC / T6 Ta = 60°C

a = Model: 7, 16, 32
b = D, Blank

Entity Parameter Model 7: $U_i = 7V$, $I_i = 250 \text{ mA}$, $P_i = 1.2W$, $C_i = 0$, $L_i = 0$
Entity Parameter Model 16: $U_i = 16V$, $I_i = 250 \text{ mA}$, $P_i = 1.2W$, $C_i = 0$, $L_i = 0$
Entity Parameter Model 32: $U_i = 32V$, $I_i = 250 \text{ mA}$, $P_i = 1.2W$, $C_i = 0$, $L_i = 0$

Special Condition of use

The SLP series shall be installed in compliance with the enclosure, mounting, and spacing, and segregation requirement of the ultimate application.

Equipment Ratings: Use Arial 10 point

TP Series:

Intrinsically safe for use in Class I, II, III Division 1, Groups A, B, C, D, E, F, G and Class I, Zone 0, Group IIC in accordance with manufacturer's Control Drawing; Explosionproof for Class I, Division 1, Groups A, B, C, and D; Dust-ignitionproof for Class II and III, Division 1, Groups E, F, and G; Nonincendive for Class I, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC, Special Protection for Class II, Division 2, Groups F, G, Hazardous (Classified) Indoor/Outdoor (TYPE 4X) Locations

FP, IOP, SLP Series:

Intrinsically safe for use in Class I, II, III Division 1, Groups A, B, C and D and Class I, Zone 0, Groups IIC and IIB in accordance with manufacturer's Control Drawing; Nonincendive for Class I, Division 2, Groups A, B, C, D and Class I, Zone 2, Group IIC Hazardous (Classified) Indoor Locations

FM Approved for:

Cooper Crouse-Hinds MTL Inc/ MTL Surge Technologies
West Melbourne, FL USA 32904



This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	1999
Class 3615	1989
Class 3810	1989
Including Supplement #1	1995
ANSI/NEMA 250	1991
ISA-S12.0.01	1998
ANSI/ISA 60079-0	2009
ANSI/ISA 60079-11	2009

Original Project ID: 3011208

Approval Granted: March 13, 2002

Subsequent Revision Reports / Date Approval Amended

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040116	February 4, 2004		
3022293	May 13, 2005		
060317	March 22, 2006		
060821	December 12, 2006		
070122	May 31, 2007		
100520	June 1, 2010		
100902	September 3, 2010		
110113	February 11, 2011		

FM Approvals LLC

J.E. Marquedant
Group Manager, Electrical

11 February 2011
Date