



FM Approvals  
 1151 Boston Providence Turnpike  
 P.O. Box 9102 Norwood, MA 02062 USA  
 T: 781-762-4300 F: 781-762-9375 www.fmapprovals.com

Member of the FM Global Group

# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

### 9491-PS. 12 VDC Power Supply Module

AIS / I / 1 / CD / Ta = 70°C – 9491 System; Entity – Terminals 1 & 3  
 I / 0 / [AEx ia] IIB, Ta = 70°C – 9491 System; Entity – Terminals 1 & 3  
 I / 1 / [AEx ib] IIB, Ta = 70°C - 9491 System; Entity – Terminals 5 & 6  
 NI / I / 2 / CD / T4, Ta = 70°C  
 I / 2 AEx nA II T4, Ta = 70°C

### Entity Parameters:

Terminals 13 and 14 or 8 pin connector		
U <sub>m</sub>	253V	
Terminals 1 and 3 - 'ia' output (linear characteristic, resistive current limit, source)		
U <sub>o</sub> or V <sub>oc</sub>	12.4V	
I <sub>o</sub> or I <sub>sc</sub>	2.67A	
P <sub>o</sub>	8.27W	
C <sub>o</sub> or C <sub>a</sub>	Group IIB Class I, Group C	7.9μF
	Group IIA Class I, Group D	30μF
L <sub>o</sub> /R <sub>o</sub>	Group IIB Class I, Group C	17.2μH/Ω
	Group IIA Class I, Group D	34.4μH/Ω
Terminals 5 and 6 - 'ib' output (non-linear, active current 'switch-off', source)		
U <sub>o</sub> or V <sub>oc</sub>	12.4V	
I <sub>o</sub> or I <sub>sc</sub>	505mA	
P <sub>o</sub>	6.3W	
C <sub>o</sub> or C <sub>a</sub>	500nF	
L <sub>o</sub> or L <sub>a</sub>	100μH	



*Special Conditions of Use:*

*1) In Class I, Division 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Division 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70).*

*2) In Class I, Zone 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Zone 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70). The equipment shall be installed in an enclosure with a minimum ingress protection rating of IP54 unless the apparatus is intended to be afforded an equivalent degree of protection by location.*

*3) When optionally connecting the power supply module to an external backplane via connector X1 the following conditions apply:*

*The external backplane shall be fitted with two retention clips type MTL 012-533 (Honeywell part no. 51153961-100) that allow the power supply module to be 'clipped' to the backplane. The power supply module being 'clipped' to the backplane forms part of the hazardous location protection and as such the retention clips shall always be in place when the power supply module is energized.*

**Equipment Ratings:**

Associated Intrinsically Safe (Entity) with connections for Class I, Division 1, Groups C and D; Intrinsically Safe (Entity) connections for Class I, [AEx ia] IIB and [AEx ib] IIB per Control Drawing 9491 System; Nonincendive / suitable for Class I, Division 2, Groups C and D, Temperature Class T4 Ta = 0°C to 70 °C; non-sparking, AEx nA II for Class I, Zone 2, Temperature Class T4 Ta = 0°C to 70 °C, Hazardous (Classified) Locations.

**FM Approved for:**

Controlled Systems Limited  
Derbyshire, England



Member of the FM Global Group

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

Class 3600	1998
Class 3610	2007
Class 3611	2004
Class 3810	2005
ANSI/ISA-12.12.02	2003
ANSI/ISA-61010.1	2004

Original Project ID: 3036467

Approval Granted: *March 30, 2010*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
---------------	------	---------------	------

FM Approvals LLC

  
J. E. Marquardt

Group Manager, Electrical

*30 March 2010*  
Date