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Member of the FM Global Group

CERTIFICATE OF COMPLIANCE

HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

9461-ET Ethernet Gateway Module

IS / I / I / ABCD / T4 Ta = 70°C; - 9400 System; Entity

I / 0 / Ex ia IIC T4 Ta = 70°C; - 9400 System; Entity

Description	Location	Input Parameters			Output Parameters				
		Ui (V)	Ci (μF)	Li (mH)	Uo (V)	Io (mA)	Po (mW)	Co (μF)	Lo (mH)
Optional Input Power Supply	T1, T2 w.r.t. T3, T4	15.4	0	0	-	-	-	-	-
RS485/422 Port 3	T6 w.r.t. T10	7.2	0	0	5.88	111	163	20	3.00
	T7 w.r.t. T10								
	T8 w.r.t. T10								
	T9 w.r.t. T10								
RS485/422 Port 4	T11 w.r.t. T15	7.2	0	0	5.88	111	163	20	3.00
	T12 w.r.t. T15								
	T13 w.r.t. T15								
	T14 w.r.t. T15								
TTL/RS232 Port 1; CON 1	Pin 9 w.r.t. Pin 5	0	0	0	5.88	188	276	20	2.26
	Pin 3 w.r.t. Pin 5	5.88	0	0	5.88	16	24	20	138
	Pin 4 w.r.t. Pin 5								
	Pin 7 w.r.t. Pin 5								
	Pin 2 w.r.t. Pin 5	12.5	0	0	3.15	3.4	2.7	50	1000
Pin 1 w.r.t. Pin 5	12.5	0	0	3.15	3.4	2.7	50	1000	
TTL/RS232 Port 2; CON 2	Pin 9 w.r.t. Pin 5	0	0	0	5.88	188	276	20	2.26
	Pin 3 w.r.t. Pin 5	5.88	0	0	5.88	16	24	20	138
	Pin 4 w.r.t. Pin 5								
	Pin 7 w.r.t. Pin 5								
	Pin 2 w.r.t. Pin 5	12.5	0	0	3.15	3.4	2.7	50	1000
Pin 1 w.r.t. Pin 5	12.5	0	0	3.15	3.4	2.7	50	1000	
RJ45 Connector (10/100 Base T) Without PoEx		15.4	0.075	0	Refer to parameters of IS power supply connected to T1, T2 w.r.t. T3, T4 for the output parameters.				
RJ45 Connector (10/100 Base T) With PoEx		15.4	0.075	0	Refer to parameters of IS power supply connected to the 9466 or 9468 Module for the output parameters.				

Special Conditions of Use:

1. The Model 9461-ET shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
2. The Model 9461-ET shall be excluded from use in environments containing chemical vapors of the Ketone or Ester families.

9465-ET 10/100 Media Converter

IS / I / 1 / ABCD / T4 Ta = 70°C; – 9400 System; Entity

I / 0 / Ex ia IIC T4 Ta = 70°C; – 9400 System; Entity

Description	Location	Input Parameters			Output Parameters				
		Ui (V)	Ci (µF)	Li (mH)	Uo (V)	Io (mA)	Po (mW)	Co (nF)	Lo (mH)
Optional Input Power Supply	T1, T2 w.r.t. T3, T4	15.4	0	0	-	-	-	-	-
Fibre-Optic transmitter		-	-	-	-	-	5 max	-	-
RJ45 Connector (10/100 Base T) Without PoEx		15.4	0.075	0	Refer to parameters of IS power supply connected to T1, T2 w.r.t. T3, T4 for the output parameters.				
RJ45 Connector (10/100 Base T) With PoEx		15.4	0.075	0	Refer to parameters of IS power supply connected to the 9466 or 9468 Module for the output parameters.				

Special Conditions of Use:

1. The Model 9465-ET shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
2. The Model 9465-ET shall be excluded from use in environments containing chemical vapors of the Ketone or Ester families.

9466-ET 10/100 5-Port Switch

IS / I / 1 / ABCD / T4 Ta = 70°C; – 9400 System; Entity

I / 0 / Ex ia IIC T4 Ta = 70°C; – 9400 System; Entity

Desc.	Loc.	Input Parameters			Output Parameters				
		Ui (V)	Ci (µF)	Li (mH)	Uo (V)	Io (mA)	Po (mW)	Co (µF)	Lo (mH)
Optional Input Power Supply	T1, T2 w.r.t. T3, T4	15.4	0	0	-	-	-	-	-
PoEx Supply Terminals*	T6 w.r.t. T7	15.4	0.075	0	-	-	-	-	-
	T8 w.r.t. T9								
	T10 w.r.t. T11								
	T12 w.r.t. T13								
	T14 w.r.t. T15								
Mini-DIN 8-way CON1 Management Port	Pin 5 w.r.t. Pins 4 & 8	12.5	0	0	3.15	3.4	2.7	50	1000
	Pins 1, 3 & 4 w.r.t. Pins 5 & 6	0	0	0	5.88	48	72	20	15
RJ45 ConnA 10/100 Base T		15.4	0.075	0	Refer to parameters of IS power supply connected to T6 w.r.t. T7 for the output parameters.				
RJ45 ConnB 10/100 Base T		15.4	0.075	0	Refer to parameters of IS power supply connected to T8 w.r.t. T9 for the output parameters				
RJ45 ConnC 10/100 Base T		15.4	0.075	0	Refer to parameters of IS power supply connected to T10 w.r.t. T11 for the output parameters				
RJ45 ConnD 10/100 Base T		15.4	0.075	0	Refer to parameters of IS power supply connected to T12 w.r.t. T13 for the output parameters				
RJ45 ConnE 10/100 Base T		15.4	0.075	0	Refer to parameters of IS power supply connected to T14 w.r.t. T15 for the output parameters				

* Not to be used if PoEx is supplied at the 9468-ET Module.

Special Conditions of Use:

1. The Model 9466-ET shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
2. The Model 9466-ET shall be excluded from use in environments containing chemical vapors of the Ketone or Ester families.

9469-ET W/LAN AP/Bridge

IS / I / 1 / ABCD / T4 Ta = 60°C; – 9400 System; Entity

I / 0 / Ex ia IIC T4 Ta = 60°C; – 9400 System; Entity

Description	Location	Input Parameters			Output Parameters				
		Ui (V)	Ci (μF)	Li (mH)	Uo (V)	Io (mA)	Po (mW)	Co (μF)	Lo (μH)
Optional Input Power Supply	Terminal T1, T2 w.r.t. T3, T4	12.8	0	0	-	-	-	-	-
RJ45 Connector (10/100 Base T) without PoEx		12.8	0.075	0	Refer to parameters of IS power supply connected to T1, T2 w.r.t. T3, T4 for the output parameters.				
RJ45 Connector (10/100 Base T) With PoEx		12.8	0.075	0	Refer to parameters of IS power supply connected to the 9466 or 9468 Module for the output parameters.				
Antenna A		-	-	-	-	-	500 max RF	-	-
Antenna B		-	-	-	-	-	500 max RF	-	-

Special Conditions of Use:

1. The Model 9469-ET shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.
2. The Model 9469-ET shall be excluded from use in environments containing chemical vapors of the Ketone or Ester families.

9468-ET Ethernet Isolator Module

AIS / I / 1 / ABCD Ta = 70°C; – 9400 System; Entity

[I] / [0] / [Ex ia] IIC Ta = 70°C; – 9400 System; Entity

Description	Location	Um (Vac)	Ci (μF)	Li (mH)
Safe area supply input	T1, T2 w.r.t. T3, T4	253	0	0
RJ45 from safe area 10/100 Base T		253	-	-

Description	Location	Input Parameters			Output Parameters				
		Ui (V)	Ci (μF)	Li (mH)	Uo (V)	Io (mA)	Po (mW)	Co (μF)	Lo (mH)
IS Power Supply (optional PoEx)*	T14 w.r.t. T15	15.4	0.075	0	-	-	-	-	-
RJ45 to/from hazardous area 10/100 Base T**		15.4	0.075	0	Refer to parameters of IS power supply connected to T14 w.r.t. T15 for the output parameters				
<p>* Power supply may only be connected if PoEx is not already connected at the 9466 Module. ** RJ45 Ethernet Port is intended for connection only to other RJ45 connectors on other 9400 Series Ethernet modules, each powered from a single intrinsically safe supply. Connection to other Ethernet systems requires special consideration and is outside the scope of this certificate, see installation drawing for connection details.</p>									

Special Conditions of Use:

1. The Model 9468-ET shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application.

Equipment Ratings:

9461-ET, 9465-ET, 9466-ET and 9469-ET:

Intrinsically Safe (Entity) for Class I, Division 1, Groups A, B, C and D; Intrinsically Safe (Entity) for Class I, Zone 0, Ex ia IIC Temperature Class T4 in accordance with Control Drawing 9400 System; Hazardous Locations.

9468-ET:

Associated Intrinsically Safe (Entity) with connections for Class I, Division 1, Groups A, B, C, D; Intrinsically Safe (Entity) connections for Class I, Zone 0, [Ex ia] IIC Temperature Class T4 in accordance with Control Drawing 9400 System; Hazardous Locations.

FM Approved for:

Controlled Systems Limited
Derbyshire, England

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

C22.2 No. 61010.1	2004
C22.2 No. 157	1992
CAN/CSA-E60079-0	2007
CAN/CSA-E60079-11	2002

Original Project ID: 3034995

Approval Granted: January 13, 2010

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
100416	May 3, 2010		

FM Approvals LLC



J. E. Marquedant
Group Manager, Electrical

3 May 2010
Date