

Instructions

Eagle Quantum Premier
General Purpose Electronic Based
Equipment Enclosure Solutions
EQ3900K Series



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Eagle Quantum Premier®
General Purpose Electronic Based
Equipment Enclosure Solutions
EQ3900K Series



DESCRIPTION

As part of providing the total solution to commercial and industrial clients from around the world, Detector Electronics Corporation offers several configurable enclosures.

The enclosures described in this document, along with the installed equipment, are EAC Approved (EurAsian Conformity) for use in general purpose area (non-hazardous) locations. Devices such as the Eagle Quantum Premier® controller, 8 channel modules, and power supply monitor are intended to be installed in general purpose (non-hazardous) areas such as control rooms. These devices must be installed in protective enclosures.

FEATURES

- General purpose area (non-hazardous) location installation
- Optional redundant controllers
- Louver and ventilator kits available
- Simple wire installation into terminal blocks
- Factory configurable device selection for the enclosure
- Choice of operators and relays
- Electronics and wiring tested at the factory.

ENCLOSURE

Depending upon the equipment selection, the front door may be supplied with a window, as well as various indicators and operators.

If a controller is installed on the front door a locking window kit must be installed. The window kit allows an operator to view the controller's display, LED status indicators and access controller's push buttons.

SPECIFICATIONS

INPUT VOLTAGE—

For use with external DC power source:
24 Vdc nominal, 18 to 30 Vdc, 150 amps max.
OR

For use with external AC power source:
100...240 VAC, 45...65 Hz, 10 amps max.

POWER CONSUMPTION—

Refer to the Eagle Quantum Premier manual (number 95-8533), Section 3, Tables 3-1 and 3-2 for system power requirements.

TEMPERATURE RANGE—

Operating: +32°F to +122°F (0°C to +50°C).
Storage: -4°F to +158°F (-20°C to +70°C).

HUMIDITY—

5% to 80% RH, non-condensing.

RELAY ELECTRICAL CHARACTERISTICS—

Input voltage (coil), nominal, all relay types – 24 Vdc.
Contact ratings – refer to manufacturer specification.

CERTIFICATION—

EurAsian Conformity



Compliance with: KZ.1510019.22.01.00187

WEIGHT (Without Electronic Assemblies)*—

Floor Mount with Back Panel

2000 x 600 x 600: 124.4 kg (333 lbs).
2000 x 800 x 600: 153.4 kg (411 lbs).
2000 x 800 x 800: 63.56 kg (438 lbs).
2000 x 1000 x 600: 82.94 kg (490 lbs).
2000 x 1000 x 800: 184 kg (492 lbs).
2000 x 2000 x 600: 365.92 kg (980.5 lbs).
2000 x 2000 x 800: 368 kg (986 lbs).

Wall Mount with Back Panel

300 x 300 x 210: 7 kg (15.4 lbs).
500 x 500 x 210: 16.8 kg (37 lbs).
600 x 600 x 250: 24.8 kg (54.7 lbs).
800 x 600 x 250: 33.6 kg (74.1 lbs).
1000 x 600 x 250: 50.5 kg (111.3 lbs).
1000 x 800 x 300: 57 kg (125.7 lbs).
1200 x 600 x 300: 55 kg (121.3 lbs).

* Total weight dependent on cabinet depth and equipment loading. See EQP Enclosures Model Matrix.

INSTALLATION

The enclosure must be securely bolted in place.

MOUNTING

Refer to the appropriate system drawing for mounting dimensions.

ENCLOSURE ENTRY

The number and position of wiring entries must be specified when the enclosure is ordered. The enclosures can accept a certain number and size of entries as specified by enclosure manufacture. Only manufacturer recommended cable glands can be used with the enclosures. Consult with Det-Tronics on the exact number and sizes of entries that are available for each enclosure.

WIRING INSTRUCTIONS

Factory wiring is made to the appropriate terminals located inside the enclosure. Electrical wiring schematics for the custom device configuration are provided with the enclosure. Field wiring and field wiring tags are the responsibility of the customer.

SYSTEM COMPONENTS

EQP SYSTEM COMPONENTS

The following devices can be used in EQ3900K enclosures as part of the EAC Approved Eagle Quantum Premier System:

EQ3XXX -	EQP Controller
EQ3700DCIO -	Discrete Input/Output Module
EQ3710AIM -	Analog Input Module
EQ3720RM -	Relay Module
EQ3730EDIO -	Enhanced Discrete Input/Output Module
EQ3LTM -	LON Termination Module
EQ2100PSM -	Power Supply Monitor
EQ2220GFM -	Ground Fault Monitor
EQ3750ASH -	Addressable Smoke and Heat Module
EQ24EMNE -	Network Extender, Panel Mount
Phoenix RS-232/RS-485 -	Ethernet Converters

Refer to the Eagle Quantum Premier manual (number 95-8533) for operation details.

The quantity and type of modules are always project specific per Sales Order and drawing packet supplied with the order. The I/O allocation may be moved from factory assigned terminals after notification to Det-Tronics.

NOTES

- 1. New inputs/outputs may be wired onto spare channels after factory notification.*
- 2. One-for-one replacement of failed modules is permitted.*
- 3. Modifications and/or repairs should be performed by trained personnel only.*

OPERATORS

Enclosures may be equipped with selector switches, pilot lights and push buttons, and panel horns. Contact Det-Tronics for information regarding model and type of operators approved for use with EQ3900K series enclosures. The quantity, type of operators and their application are always project specific per Sales Order and drawing packet supplied with the order. Approved push button quantities for use in Acknowledge and Silence applications vary depending on manufacturer. The I/O allocation may be moved from factory assigned terminals after notification to Det-Tronics. See Notes 4 and 5 in Figures 1 thru 3 for configuration change details.

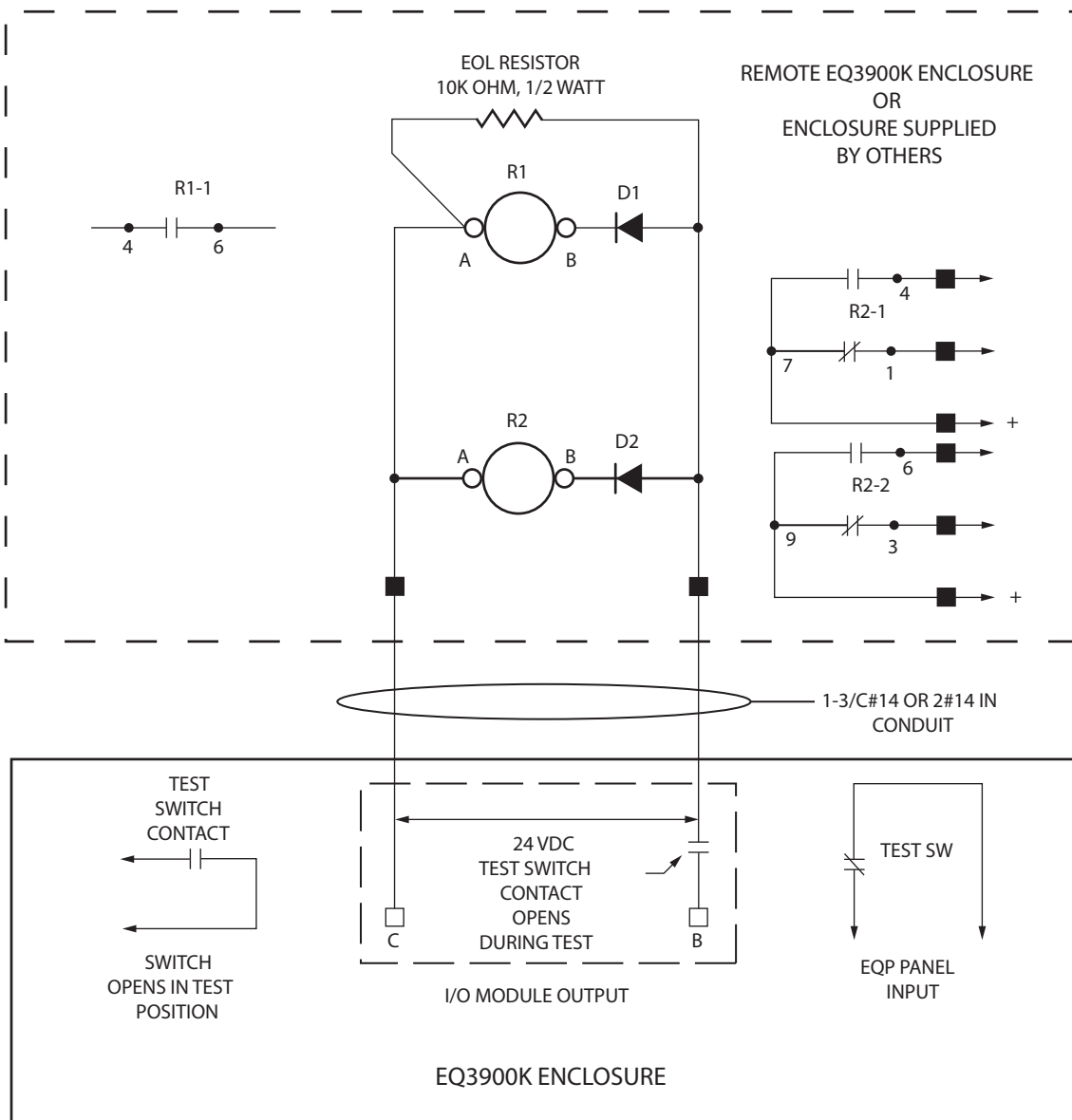
NOTE

Per NFPA 72 requirements, Acknowledge and silence pushbuttons must be used with padlocking covers with locks as guards against unauthorized operations. Padlocking covers are offered by Det-Tronics and factory installed as guards with Acknowledge and Silence push buttons. Locks are not included.

ACTIVATION RELAYS

Five activation relays (two Tyco and three Phoenix Contact relays) are available for use with the EQP system. Activation relays are intended for occasional use. They are typically used for HVAC control where they become actuated primarily when the protected area is in an alarm condition. For relay wiring connections, see Figure 1 for Tyco relays and Figures 2 and 3 for Phoenix Contact relays. Tyco relays can be installed inside the EQ3900K enclosure, or inside the customer's provided enclosure at site, while still connected to I/O modules within the EQ3900K enclosure. When Tyco relays are located in the customer's enclosure, installation, wiring and operation of Tyco relays must meet all requirements of the local Authority Having Jurisdiction (AHJ). Phoenix Contact relays are installed only within EQ3900K enclosures. For additional information regarding relays, see Tyco product catalog 1308242 or Phoenix Contact product data sheets 101780-en-02 and 100516-03-en.

TYCO RELAYS IN HVAC APPLICATIONS



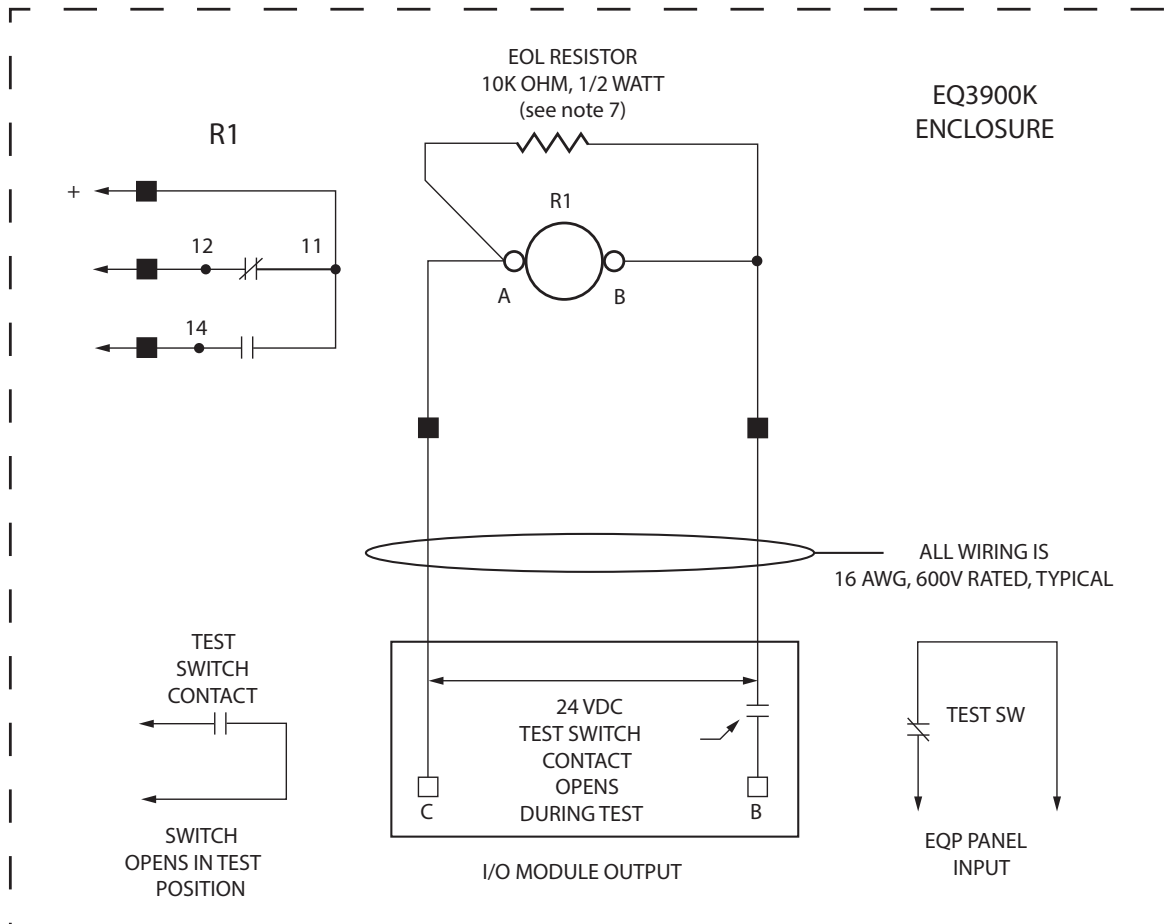
R1 - TYCO KUEP-3D15-24
(DEC P/N 000123-198)

R2 - TYCO KUP-11D15-24
(DEC P/N 000123-199)

- NOTES:
1. D1 & D2 ARE SUPERVISORY DIODES:
D1 - IN4004 (RECTIFIER, 1A, 400V) OR D2 - GI501 (RECTIFIER, 3A, 50V).
 2. OPTIONAL TEST SWITCH IN ENCLOSURE ALLOWS TESTING OF TRIP CIRCUIT.
 3. TEST SWITCH WILL BLOCK ACTIVATION OF TRIP CIRCUIT DURING SENSOR TESTING.
 4. THE I/O ALLOCATION MAY BE MOVED FROM FACTORY ASSIGNED TERMINALS AFTER FACTORY NOTIFICATION. ALL CHANGES MUST BE DOCUMENTED.
 5. MODIFICATIONS AND/OR REPAIRS SHOULD BE PERFORMED BY TRAINED PERSONNEL ONLY.
 6. WHEN TYCO RELAYS ARE INSTALLED IN REMOTE ENCLOSURE, THE MAXIMUM WIRING LENGTH BETWEEN I/O MODULE AND RELAYS IS 3000 FEET (914 METERS) USING 14 AWG WIRE.
 7. TYCO RELAYS MAY BE INSTALLED IN THE SAME ENCLOSURE WITH I/O MODULE.
INTERNAL WIRING IS 16 AWG, RATED 600 VOLTS TYPICAL.
 8. THE SYSTEMS SUPERVISION CONFIGURATION MUST BE SET FOR MONITORED FOR OPENS/SHORTS.

Figure 1—Typical Supervised Output Configuration Using Tyco Relays

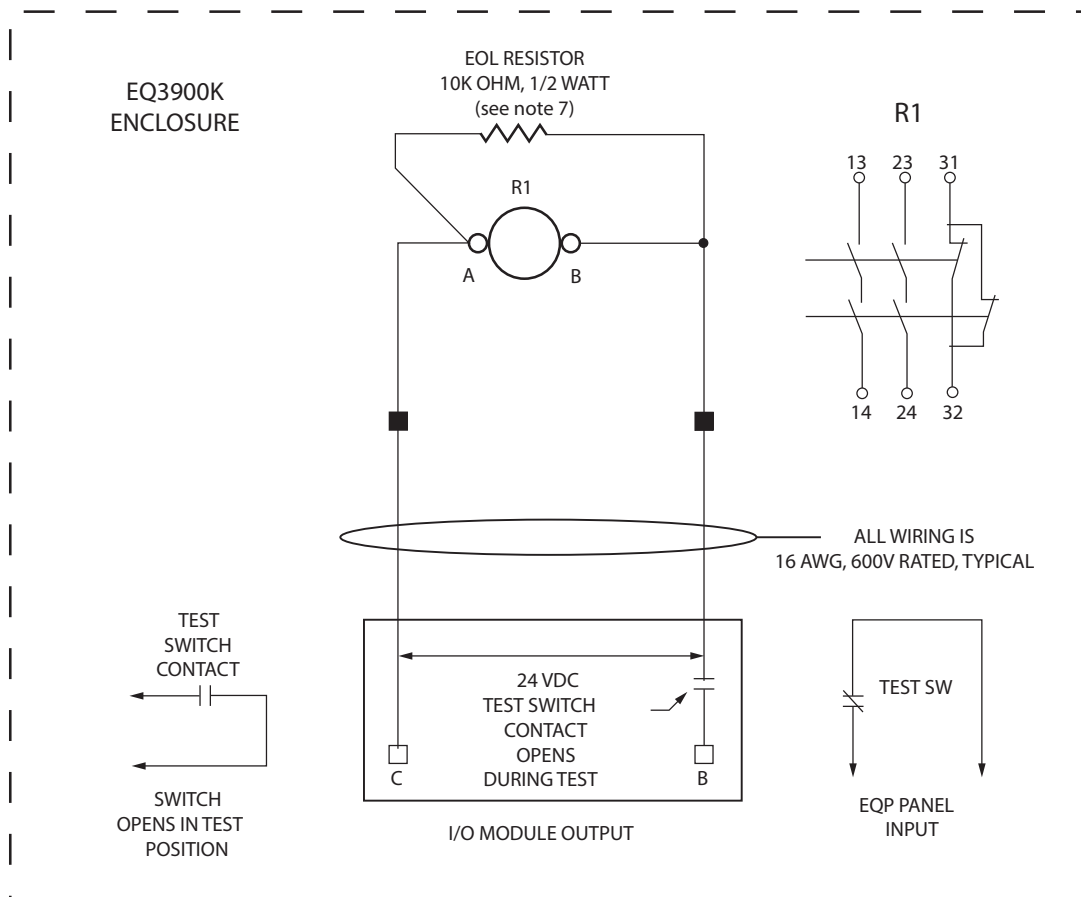
PHOENIX CONTACT RELAY MODEL 2966171 IN HVAC APPLICATIONS



- NOTES:
1. PHOENIX RELAY 2966171 (DEC P/N 000123-196) IS EQUIPPED WITH INTERNAL SUPERVISORY DIODE.
 2. OPTIONAL TEST SWITCH IN ENCLOSURE ALLOWS TESTING OF TRIP CIRCUIT.
 3. TEST SWITCH WILL BLOCK ACTIVATION OF TRIP CIRCUIT DURING SENSOR TESTING.
 4. THE I/O ALLOCATION MAY BE MOVED FROM FACTORY ASSIGNED TERMINALS AFTER FACTORY NOTIFICATION. ALL CHANGES MUST BE DOCUMENTED.
 5. MODIFICATIONS AND/OR REPAIRS SHOULD BE PERFORMED BY TRAINED PERSONNEL ONLY.
 6. THE SYSTEMS SUPERVISION CONFIGURATION MUST BE SET FOR MONITORED FOR OPENS/SHORTS
 7. SUPERVISION IS OPTIONAL WHEN RELAY IS MOUNTED IN THE SAME ENCLOSURE AS OUTPUT DRIVER.

Figure 2—Typical Supervised Output Configuration Using a Phoenix Contact Relay Model 2966171

PHOENIX CONTACT RELAY MODEL 2981020 OR 2963912 PSR-SCP-24UC IN HVAC APPLICATIONS



- NOTES:
1. PHOENIX RELAY 2981020 SIL3 (DEC P/N 000123-197) IS EQUIPPED WITH INTERNAL SUPERVISORY DIODE (SHOWN).
OR PHOENIX RELAY 2963912 PSR-SCP-24UC (DEC PN 000123-229) IS EQUIPPED WITH INTERNAL SUPERVISORY DIODE.
 2. OPTIONAL TEST SWITCH IN ENCLOSURE ALLOWS TESTING OF TRIP CIRCUIT.
 3. TEST SWITCH WILL BLOCK ACTIVATION OF TRIP CIRCUIT DURING SENSOR TESTING.
 4. THE I/O ALLOCATION MAY BE MOVED FROM FACTORY ASSIGNED TERMINALS AFTER FACTORY NOTIFICATION. ALL CHANGES MUST BE DOCUMENTED.
 5. MODIFICATIONS AND/OR REPAIRS SHOULD BE PERFORMED BY TRAINED PERSONNEL ONLY.
 6. THE SYSTEMS SUPERVISION CONFIGURATION MUST BE SET FOR MONITORED FOR OPENS/SHORTS.
 7. SUPERVISION IS OPTIONAL WHEN RELAY IS MOUNTED IN THE SAME ENCLOSURE AS OUTPUT DRIVER.

Figure 3—Typical Supervised Output Configuration Using a Phoenix Contact Relay Model 2981020 or 2963912-PSR-SCP-24UC

EQ3900K Model Matrix

MODEL	DESCRIPTION				
EQ3900K	EAC Approved Assemblies for EQP: General Purpose (Non-Hazardous) Area Locations				
	TYPE	EQP CONTROLLER			
	0	Quantity 0			
	1	Quantity 1			
	2	Quantity 2 (Redundant Configuration)			
	TYPE	ENCLOSURE HEIGHT and WIDTH			
	SIZE	H	W	D	NOTES
FLOOR MOUNT IP55	A	2000	600	600	
	B	2000	800	600	
	C	2000	800	800	
	D	2000	1000	600	
	E	2000	1000	800	
	F	2000	2000	600	2 Cabinets Joined
	G	2000	2000	800	2 Cabinets Joined
WALL MOUNT IP55	H	300	300	210	Remote I/O Only
	I	500	500	210	Remote I/O Only
	J	600	600	250	Remote I/O Only
	K	800	600	250	Remote I/O Only
	L	1000	600	250	
	M	1000	800	300	
	N	1200	600	300	
	TYPE	WINDOW CONFIGURATION			
	A	No Window			
	B	Operable Window (With Key Lock)			
	C	Fixed Window			
	TYPE	DESCRIPTION			
	XXXXXXXX-XXX	Sales Order # Drawing Packet			

EQ3900K Design Criteria

FLOOR MOUNTED ENCLOSURES	
SIZE	MAXIMUM NUMBER OF EQP I/O MODULES
A	12
B	16
C	16
D	16
E	16
F	32
G	32
WALL MOUNTED ENCLOSURES	
SIZE	MAXIMUM NUMBER OF EQP I/O MODULES
H	1
I	2
J	3
K	4
L	5
M	7
N	8

ORDERING INFORMATION

Refer to the EQ3900K Enclosures Model Matrix for details.

For assistance in ordering a system to fit your application, please contact:

Detector Electronics Corporation
 6901 West 110th Street
 Minneapolis, Minnesota 55438 USA
 Operator: (952) 941-5665 or (800) 765-FIRE
 Customer Service: (952) 946-6491
 Fax: (952) 829-8750
 E-mail: det-tronics@det-tronics.com



95-8769



FlexSonic® Acoustic Leak Detector



X3301 Multispectrum IR Flame Detector



PointWatch Eclipse® IR Combustible Gas Detector



FlexVu® Universal Display with GT3000 Toxic Gas Detector



Eagle Quantum Premier® Safety System

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Det-Tronics manufacturing system is certified to ISO 9001—the world's most recognized quality management standard.



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