Instructions

Eagle Quantum Premier® Systems
Marine Applications DNV and U.S. Coast Guard
Approval Number 161.002/49/0

EAGLE QUANTUM PREMIER® SYSTEM
MARINE APPLICATIONS DNV AND
U.S. COAST GUARD APPROVAL NUMBER 161.002/49/0

Approved System Description

Refer to Table 1 for a complete list of DNV and USCG approved equipment.

Table 1— List of Approved Equipment

Equip. No.	Manufacturer	Equipment type	Series/Model Description
1	Det-Tronics	EQ3XXX Controller	EQ3XXXP N(C) N(S) W(T)-C, panel mount only; installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controlled environments; NEMA 4X enclosure for open area installations.
2	Det-Tronics	EQ3LTM LON Termination Module	Optional module used in the Controller Redundancy configuration, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controlled environments; NEMA 4X enclosure for open area installations.
3	Det-Tronics	EQ3710AIM Analog Input Module	EQ3710D(P) W(T), installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controlled environments; NEMA 4X enclosure for open area installations.
4	Det-Tronics	EQ3720RM Relay Module	EQ3720D(P) W, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controlled environments; NEMA 4X enclosure for open area installations.
5	Det-Tronics	EQ3730EDIO Enhanced Discrete Input/Output Module	EQ3730D(P) W(T); installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controlled environments; NEMA 4X enclosure for open area installations.
6	Det-Tronics	EQ3750ASH Addressable Smoke & Heat Module	EQ3750ASHP W; panel mount only, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controlled environments; NEMA 4X enclosure for open area installations.
7	Det-Tronics	EQ24xxNE Network Extender Module	EQ245(6) 3NE; Enclosure material: 5 – Aluminum, 6 –SS.
8	Det-Tronics	EQ22xxDCUEX Digital Communication Unit, Combustible	EQ225(6)3DCUEX; Enclosure material: 5 – Aluminum, 6 –SS. (Uses CGS Gas Sensor)
9	Det-Tronics	CGS Combustible Gas Sensor	CGSS1A6C2R1X (Used with the EQ22xxDCUEX)
10	Det-Tronics	PIRECLAx4 PointWatch Hydrocarbon Gas Detector	PIRECLA (1) 4 A (B) 1 (2) W (T) 1 (2)
11	Det-Tronics	PIRECLAx4 PointWatch Hydrocarbon Gas Detector “Duct Mount”	PIRECLA (1) 4 A (B) 1 (2) W (T) 1 (2); with DEC Q900C1001 Duct Mount kit

Table 1— List of Approved Equipment (Continued)

Equip. No.	Manufacturer	Equipment type	Series/Model Description
12	Det-Tronics	GT3000 Toxic Gas Detector	Model GTXS N (M) W 4 (5) Transmitter with Model GTSH2S 20P (50P,100P) Sensor or Model GTSO2 25V Sensor or Model GTSCO 100P (500P) Sensor
13	Det-Tronics	UD10 Universal Display	UD10A (S) 5N (5M) 25 (28) W 2
14	Det-Tronics	X3301 Multispectrum Flame Detector	X3301A (S) 4N (4M) 11 (13, 14, 23) W (T) 1 (2) ; with Q9033A Al (Q9033B SS) swivel
15	Det-Tronics	X3302 Multispectrum Flame Detector	X3302A (S) 4N (4M) 11 (13, 14, 23) W 1 (2); with Q9033A Al (Q9033B SS) swivel
16	Det-Tronics	STB Sensor Termination Box	STB4 (5) A (S) 2N (2U, 3N, 5N, 6N) W (Used with the Fenwal DAF Vertical Heat Detector)
17	Det-Tronics	EQ2220GFM Ground Fault Monitor	EQ2220GFM is installed in the same enclosure with EQ3XXX Controller
18	Phoenix Contact (Germany)	EQP2120PS-B Power Supply (Discontinued)	Model Quint PS-100-240VAC/24Vdc/20; panel mount only, installed in the same enclosure with EQ3XXX Controller
19	Phoenix Contact (Germany)	EQP2120PS-B Power Supply (Replacement)	Model QUINT PS-1AC/24 DC/20 panel mount only, installed in the same enclosure with EQ3XXX Controller
20	Phoenix Contact (Germany)	EQP2410PS-P Converter	Model QUINT PS-24 DC/24 DC/10 panel mount only, installed in the same enclosure with EQ3XXX Controller
21	Phoenix Contact (Germany)	QUINT-DIODE/40Diode Redundancy Module	Model QUINT-DIODE/40; panel mount only; installed in the same enclosure with EQ3XXX Controller and Approved Phoenix Power Supplies
22	Kidde-Fenwal (Fenwal)	DAF Vertical Heat Detector	Model 12-E27121-020-xx rated 140°F (60°C) {160°F (71°C), 190°F (88°C), 225°F (107°C)}; used with STB Sensor Termination Box, item 15
23	Fenwal	THD-7052 Heat Detector	Uses 2-wire base 2WRLT.
24	Fenwal	CPD-7054 Ionization Type Smoke Detector	Uses 2-wire base 2WRLT.
25	Fenwal	PSD-7157 and PSD-7157D Photoelectric Type Smoke Detectors	Uses 2-wire base 2WRLT.
26	Fenwal	MT-12/24-R Horn	24 Vdc model; installed in Fenwal IOB-R box.
27	Fenwal	MTWP-2475W – FR Horn/Strobe	Multitone Weatherproof Horn-Strobe; installed in Fenwal IOB-R box.
28	Fenwal	Manual Call Stations Series 3300	Model 84-330001-002 pull station; uses Fenwal SGB-32S interior surface mount backbox (compatible mounting with B-11).

Table 1— List of Approved Equipment (Continued)

Equip. No.	Manufacturer	Equipment type	Series/Model Description
29	Fenwal	RA-911 Remote Indicator	Remote indicator for use with Fenwal Heat or Smoke detectors.
30	MEDC (UK)	Manual Fire Alarm Call Point PB Range	Model PB-UL-4C-6C-4-DC-D-7-R call point
31*	Edwards Signaling	879EX-G1 Horn	Uses CCH EAJC26 conduit outlet box with cover, 3/4 NPT hub size.
32	Applied Strobe Technology (Canada)	AST-4-1030 Strobe	AST-4-10-30-DC-CL-CM-75-ULC; with clear lenses
33	Air Products & Controls	SL-2000-P Duct Smoke Detector	SL-2000-P; installed in Hoffman LWC204015SS6 NEMA 4X enclosure; uses Apollo 55000-328A photoelectric head w/ RW-268A base.
34	Apollo Fire Detectors Ltd.	Discovery Ionization Smoke Detector	Apollo P/N 58000-550NA (with 4" Base Model P/N 45681-210)
35	Apollo Fire Detectors Ltd.	Discovery Optical Smoke Detector	Apollo P/N 58000-650NA (with 4" Base Model P/N 45681-210)
36	Apollo Fire Detectors Ltd.	Discovery Multisensor Detector	Apollo P/N 58000-750NA (with 4" Base Model P/N 45681-210)
37	Apollo Fire Detectors Ltd.	Discovery Heat Detector	Apollo P/N 58000-450NA (with 4" Base Model P/N 45681-210)
38	Apollo Fire Detectors Ltd.	XP95A Sounder Control Module	Apollo P/N 55000-825NA
39	Apollo Fire Detectors Ltd.	Mini Switch Monitor	Apollo P/N 55000-765NA**
40	Apollo Fire Detectors Ltd.	Priority Mini Switch Monitor	Apollo P/N 55000-765NA**

* Horn item 31 is for use in gas applications only.
** The device type depends on the priority switch setting on the device.
NA = North American Approvals

IMPORTANT

The EQP2120PS-B Power Supply providies EQP System devices with power from input supply 120 to 220 Vac. The EQP2120PS-B Power Supply is used in pairs where primary source of input supply is connected to one and the secondary source is connected to the other. Use of these power supplies may provide the source of the secondary supply. The EQP2410PS-P Converter provides the EQP system with power from input supply 24 Vdc and provides the source if secondary supply only.

NOTE

The customer may provide other sources of the secondary supply such as secondary source batteries, their supervision or charging, or UPS. Per NFPA 72®-2013 requirements, such power supply related requirements must be separately provided for and be accepted by the local Authority Having Jurisdiction (AHJ).

SYSTEM SPECIFICATION

EQP2120PS-B POWER SUPPLY (DISCONTINUED)—

Number of units:	16 (8 pairs) max
Input voltage:	120 – 220 Vac, -15%, +10%, 60/50 Hz single phase
Output voltage:	Nominal– 24.5 Vdc ± 1% Vdc
	Range– 24.5….28.0 Vdc
Input current:	Vout = 24.5 Vdc: 4.9 Amps @ 120 Vac
	2.9 Amps @ 220 Vac.
	Vout = 28.0 Vdc: 5.6 Amps @ 120 Vac
	3.2 Amps @ 220 Vac.
Output current, each:	20 A

EQP2120PS-B POWER SUPPLY (REPLACEMENT)—

Number of units:	16 (8 pairs) max
Input voltage:	120 – 220 Vac, -15%, +10%, 60/50 Hz single phase
Output voltage:	Nominal– 24.5 Vdc ± 1% Vdc
	Range– 24.5….28.0 Vdc
Input current:	6.6 A max @120 Vac
	3.6 A max @220 Vac.
Output current, each:	20 A

EQP2410PS-P CONVERTER—

Number of units:	16 (8 pairs) max
Input voltage:	24 Vdc, -15%, +10%
Output voltage:	Nominal– 24.5 Vdc ± 1% Vdc
	Range– 24.5….28.0 Vdc
Input current:	15.7 A max @ 24 Vdc.
Output current, each:	10 A

QUINT-DIODE/40 REDUNDANCY MODULE

Number of units:	8 (2 Power Supplies can be connected to each module) max
Input voltage:	24.5….28.0 Vdc

IMPORTANT

The output voltage is adjustable. An even current distribution must be ensured by precisely setting all power supply units that are operated in parallel to the same output voltage ±10 mV.

IMPORTANT

To ensure symmetrical current distribution it is recommended that all cable connections from all power supply units/diode redundancy modules to the power distribution bus are the same length and have the same cross section.

NOTE

The Power Supplies, Converter, and Diode Redundancy Module electrical specifications for EQP marine applications represent a reduction in the rating range with respect to that specified by the manufacturer. The manufacturer's published electrical specifications may be viewed as reference only.

TEMPERATURE AND HUMIDITY RANGE—
See Table 2 for details.

NOTE

The operating temperature and relative humidity specification of EQP System components including Power Supplies, Converter, and Diode Redundancy Module in EQP marine applications represent a reduction in the rating range for some components and an increase in the rating range for other components with respect to that specified by their manufacturers. The manufacturer's published operating temperature and relative humidity specifications may be viewed as reference only.

INSTALLATION—
The EQP2120PS-B Power Supply, EQP2410PS-P Converter, and Diode Redundancy Module are Panel mounted and intended to be installed within the same cabinet as the EQ3XXX Controller of the EQP System. **Note: Ensure sufficient convection**. Refer to Phoenix Contact manuals as listed below for additional installation and mounting details. For other EQP System components installation, operation and maintenance refer to appropriate sections of this manual and to individual device manuals.

NOTE

SHCS # 10-24 SST screws are recommended for the Power Supply and Diode Redundancy Module panel mounting.

NOTE

Terminal End Brackets DEC P/N 000133-517 are recommended for use with EQ371(2)(3)0D (DIN rail mount) and EQ2220GFM Modules.

POWER SUPPLY SUPERVISION—

The EQP2120PS-B Power Supply and EQP2410PS-P Converter shall be monitored for Trouble. The power supply provides an internal relay contact DC OK signal output, floating. All power supply unit relay contacts shall be connected in series and connected to the EQ3730EDIO input. A Trouble signal will be initiated in case of a power supply failure. The Trouble signal will not identify the specific power supply unit that failed. See Figure D-2 for connecting diagram.

EQP SYSTEM MODEL 000523-009 & 000523-010

- The System consists of:

  1 x EQP2120PS-B Power Supply, primary
  2 x EQP2410PS-P Converter, secondary
  2 x QUINT–DIODE/40 Redundancy module
  1 x EQ2220GFM Ground Fault Monitor
  1 x EQ3XXX Controller (000523-009)
  0 x EQ3XXX Controller (000523-010)
  0 x EQ3710AIM Module & 1 x EQ3730EDIO Module (000523-009)
  2 x EQ3710AIM Modules & 2 x EQ3730EDIO Modules (000523-010)

- The System is mounted within 60H x 36W x 16D Stainless Steel (type 316), NRTL labeled NEMA 4X rated enclosure. The enclosure shall be lockable by key lock or padlock.
- EQP system models 000523-009 & 000523-010 are suitable for Cl I, Div. 2, GRPS A, B, C & D (T4); Cl I, Zone 2, GRP IIC (T4) Hazardous (Classified) Locations; Tamb = –20°C to +49°C.
- Modifications to enclosure (such as conduit entry holes, windows etc.) are permitted when implemented by the manufacturer of the enclosure.

ORDERING INFORMATION

DEVICES MARKED WITH USCG INSIGNIA	
Model	**Description**
EQP2120PS-B (Discontinued)	Phoenix Contact QUINT–PS-100-240AC/24DC/20 Panel Mount
EQP2120PS-B (Replacement)	Phoenix Contact QUINT–PS-1AC/24DC/20 Panel Mount
EQP2410PS-P	Phoenix Contact QUINT–PS-24DC/24DC/10 Panel Mount
Diode Redundancy Module	Phoenix Contact QUINT–DIODE/40 Panel Mount
EQ3XXXP N(C) N(S) W(T)-C	EQP System Controller, panel mount
Q900C1001	Duct Mount Kit
000523-009	See description on page D-6
000523-010	See description on page D-6

For other USCG Approved EQP System components, refer to Table 1 or contact Det-Tronics Customer Service.

USCG insignia marked on the controller and power supplies indicates USCG certification of a system made-up of components in Table 1.

Table 2—Temperature and Humidity Ranges

Equip. No.	Product	Temperature & RH Non-Condensing		
		Installation Category		
		Controlled environment	Installation in consoles, housings, etc.; Non-weather protected or cold locations	Weather exposed areas (Salt mist)
1*	EQ3XXX Controller with or without EQ3LTM Module	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
2*	EQ3710AIM Analog Input Module	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
3*	EQ3720RM Relay Module	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
4*	EQ3730EDIO Enhanced DiscreteInput/Output Module	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
5	EQ3750ASH	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
	EQ3760ASM	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
6	EQ24xxNE Network Extender Module	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
7	EQ22xxDCUEX Digital Communication Unit, Combustible	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
8	CGS Combustible Gas Sensor	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
9	PIRECLAx4 PointWatch Hydrocarbon Gas Detector	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
10	PIRECLAx4 PointWatch Hydrocarbon Gas Detector “Duct Mount”	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
11	GT3000 Toxic Gas Detector	0°C to +50°C 5-95%RH	-20°C to +50°C 5-95%RH	-20°C to +50°C 5-95%RH
12	UD10 Universal Display	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
13	X3301 Multispectrum Flame Detector	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
14	X3302 Multispectrum Flame Detector	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH

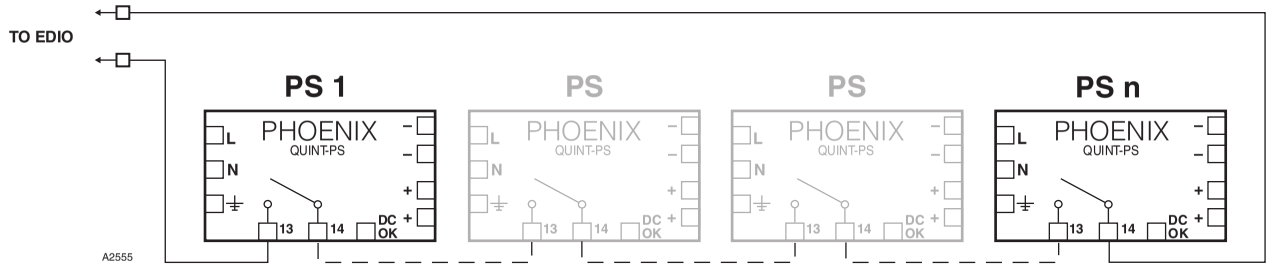
Table 2—Temperature and Humidity Ranges (Continued)

Equip. No.	Product	Temperature & RH Non-Condensing		
		Installation Category		
		Controlled environment	Installation in consoles, housings, etc.; Non-weather protected or cold locations	Weather exposed areas (Salt mist)
15	STB Sensor Termination Box	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
16*	EQ2220GFM Ground Fault Monitor	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
17	EQP2120PS-B Power supply	0°C to +55°C 5-95%RH	-25°C to +55°C 5-95%RH	-25°C to +55°C 5-95%RH
18*	EQP2410PS-P Converter	0°C to +55°C 5-95%RH	-25°C to +55°C 5-95%RH	-25°C to +55°C 5-95%RH
19*	QUINT-DIODE/40Diode redundancy module	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +55°C 5-95%RH
20	DAF Vertical Heat Detector	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
21	THD-7052 Heat Detector	0°C to +55°C 5-95%RH	N/A	N/A
22	CPD-7054 Ionization Type Smoke Detector	0°C to +55°C 5-95%RH	N/A	N/A
23	PSD-7157 and PSD-7157D Photoelectric Type Smoke Detectors	0°C to +55°C 5-95%RH	N/A	N/A
24	MT-12/24-R Horn	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	N/A
25	MTWP-2475W – FR Horn/Strobe	0°C to +55°C 5-95%RH	-25°C to +55°C 5-95%RH	N/A
26	Manual Call Stations Series 3300	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	N/A
27	RA-911 Remote Indicator	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	N/A
28	Manual Fire Alarm Call Point PB Range	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
29	CCH ETH 2416 Horn	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH

Table 2—Temperature and Humidity Ranges (Continued)

Equip. No.	Product	Temperature & RH Non-Condensing		
		Installation Category		
		Controlled environment	Installation in consoles, housings, etc.; Non-weather protected or cold locations	Weather exposed areas (Salt mist)
30	AST-4-1030 Strobe	0°C to +55°C 5-95%RH	-25°C to +70°C 5-95%RH	-25°C to +70°C 5-95%RH
31	SL-2000-P Duct Smoke Detector	0°C to +55°C 5-95%RH	0°C to +70°C 5-95%RH	0°C to +70°C 5-95%RH
32	Discovery Ionization Smoke Detector	5°C to +55°C 5-95%RH	N/A	N/A
33	Discovery Optical Smoke Detector	5°C to +55°C 5-95%RH	N/A	N/A
34	Discovery Multisensor Detector	5°C to +55°C 5-95%RH	N/A	N/A
35	Discovery Heat Detector	5°C to +55°C 5-95%RH	N/A	N/A
36	XP95A Sounder Control Module	5°C to +55°C 5-95%RH	N/A	N/A
37	Mini Switch Monitor	5°C to +55°C 5-95%RH	N/A	N/A
38	Priority Mini Switch Monitor	5°C to +55°C 5-95%RH	N/A	N/A

* For use in controlled environment, install in NEMA 12 rated enclosure or cabinet.
For use in non-weather protected, cold and salt mist exposed areas, install in NEMA 4X stainless steel enclosure or cabinet.



Note: Contacts are closed during normal operation. The circuit shall be wired to an input on the EQP system (EDIO). In Logic, the selected input must be inverted and used to activate an alarm trigger gate, which initiates a fault message on the Controller and activates the fault relay output.

No supervision is necessary, since the EDIO modules must be installed in the same cabinet with EQP21X0PS and EQP2410PS.

Figure D-1—Power Supply and Converter Relays Wired in Series for Trouble Monitoring (up to 16 Power Supplies/Converters)

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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