SERIES
X16PDM
PROGRAMMABLE
DIGITAL MONITORS

RONAN

ENGINEERING

COMPANY

The Ronan Series X16PDM Programmable Digital Monitors are the latest generation of Ronan's state-of-the-art digital input man machine interface and remote annunciators offered in most common mechanical configurations.

The systems in the X16PDM Programmable Digital Monitors feature high density input field contact capacity with remote indicator light output.

A system common trouble and a per-point auxiliary relay output may be utilized for field contact repeater or for remote group alarms. The system monitors internal routines and the communication back-bone, signaled by dedicated LED or relay contact closure.

X16PDM is equipped with a host interface module that provides advanced communication interface protocols to interface with an external host computer, local network, or plant network.

F E A T U R E S

INPUTS
- Dry Contact, System Powered 24 Vdc
- Normally Open/Normally Closed
- Live Contacts (Isolated)
- 24 Vdc, 48 Vdc, 125 Vdc or 115 Vac, 240 Vac

SEQUENCE
- All Standard ISA Sequences – User Configurable

OUTPUTS
- Dual Audible – Configurable
- Auxiliary Contact
  - Double Throw Selectable
  - Normally Energized or De-energized
  - GP or HS Relays
  - May be Added in the Field
- Common System Trouble Alarm
- Reflash System Trouble Alarm
- Serial Alarm Output Protocol
  - Ronan Proprietary
  - MODBUS RTU Slave
  - TCP/IP
  - DNP 3.0
- Alarm Serial Interface
  - Object Linking and Embedding for Process Control (OPC)

DESIGN TECHNOLOGY
- Microprocessor Based
- High Noise Immunity
- Field Proven Off-the-shelf Worldwide
- Serial Input/Output
- Comprehensive User Configuration with Standard Windows Software

MECHANICAL
- Relay Rack and Surface Mounting
- Light Weight
- Reinforced Terminal Block

WARRANTY
- Three (3) Years

APPROVALS
- UL – Underwriters Laboratories
- CUL – Canadian Underwriters Labortories

EMI/RFI CAPABILITY
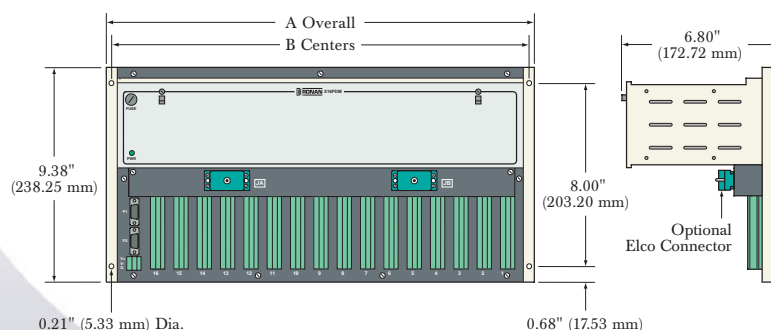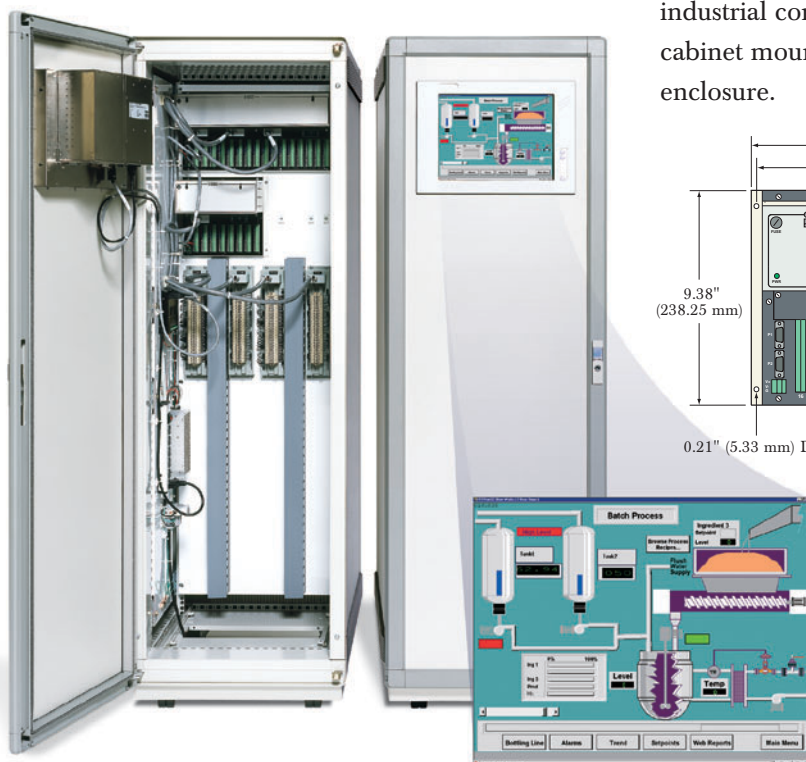- CE Compliant to EN50081-2/ EN50082-2

The Ronan X16PDM Programmable Digital Monitor Systems are designed for the needs of the process and power industries where field inputs and electronics are required to be some distance away from the display or indicating lamp cabinets, such as Relay Rack Room from Control Room, using multiconductor lamp cabinet cables. The systems provide all the basic features of an annunciator in a small, high density module chassis. A system common trouble alarm and a per-point auxiliary relay output may be utilized for a field contact repeater or for remote group alarms. The per-point optional auxiliary relay module, equipped with one to four relays, provides a selectable form A or B type dry contact. A system common reflash output allows remote annunciation of any window going into alarm.

Similar to the X11CA Window Annunciator, the Programmable Digital Monitor provides serial output of alarms in many industry standard protocols to Host computers, Human Machine Interface (HMI) computers, PLCs and DCS systems.

SURFACE-MOUNT REMOTE LOGIC CHASSIS

The Ronan X16PDM-SM Surface-mount Programmable Digital Monitors are designed in two sizes of 32 point and 64 point logic inputs. The chassis is used to mount in NEMA enclosures with standard termination facility of Weidmueller or custom termination of various industry standard terminal blocks. The system is interfaced to HMI computers through its serial output using industry standard OPC interface via the Host interface module. The system can also interface to one of many types of Ronan lamp cabinets or mosaic cabinets through multiconductor lamp cables or individual wires. The system is widely used in applications where field contact status is to be displayed on graphic displays operating in a door mounted industrial computer, or a visual lamp cabinet mounted on the door of the enclosure.

9.38" (238.25 mm)

A Overall
B Centers

6.80" (172.72 mm)

8.00" (203.20 mm)

Optional Elco Connector

0.21" (5.33 mm) Dia.

0.68" (17.53 mm)

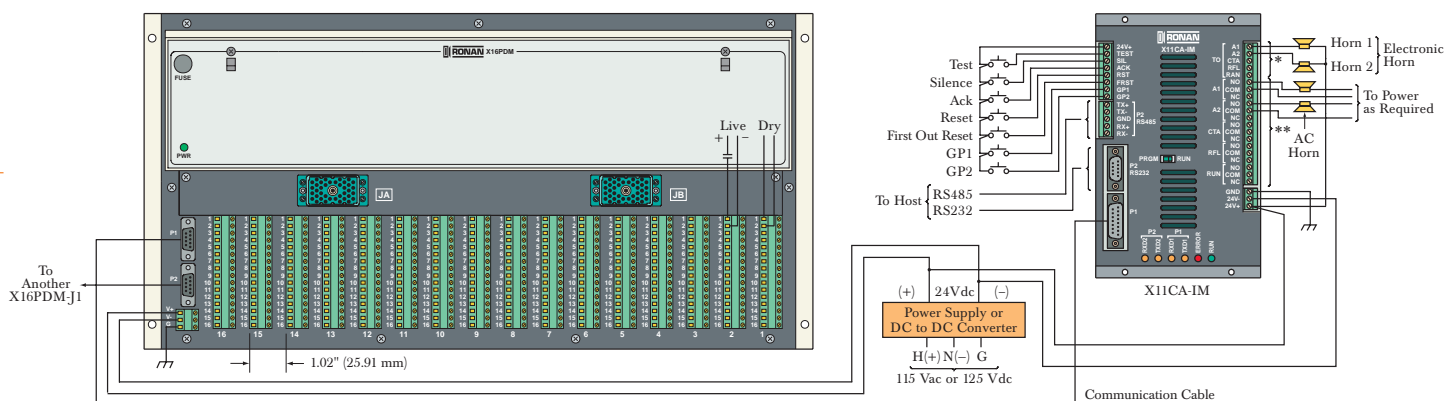| Model	A Overall		B Centers	
	Inches	mm	Inches	mm
X16PDM-SM-64 ALM	18.70	474.98	18.25	463.55
X16PDM-SM-32 ALM	10.54	267.72	10.09	256.29

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RACK-MOUNT REMOTE LOGIC

The Ronan X16PDM-RR Rack-mount Remote Programmable Digital Monitors are designed for standard 19.00 inch (482.60 mm) or 24.00 inch (609.60 mm) relay rack mounting. Field inputs and remote lamp outputs are accessed from the rear of the chassis via a multipin Elco connector or standard terminal block. The system is used for high density alarm input monitoring in power plants with remote lamp cabinet connection. The system provides a serial output, daisy-chainable to a host device, using industry standard communication protocols.
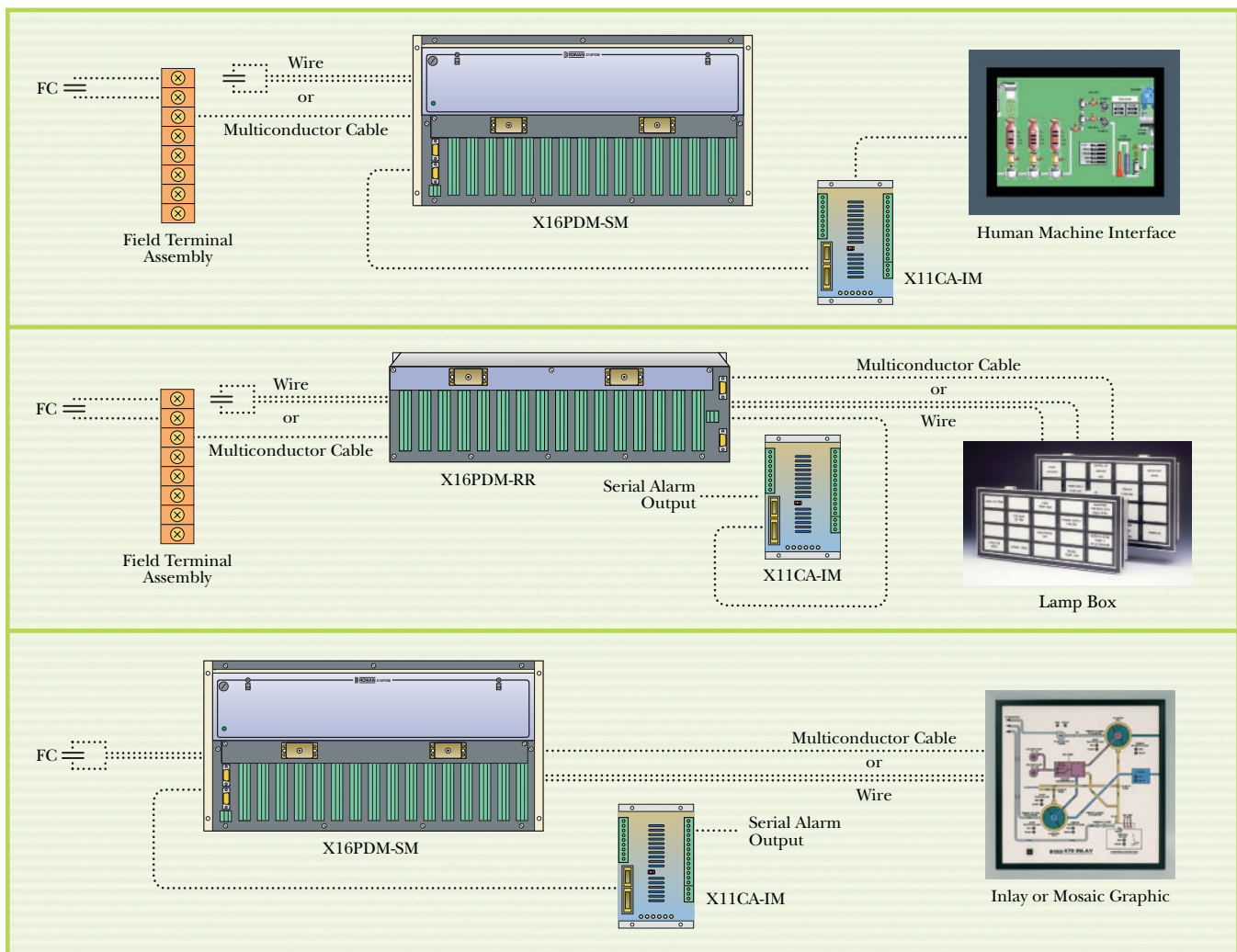

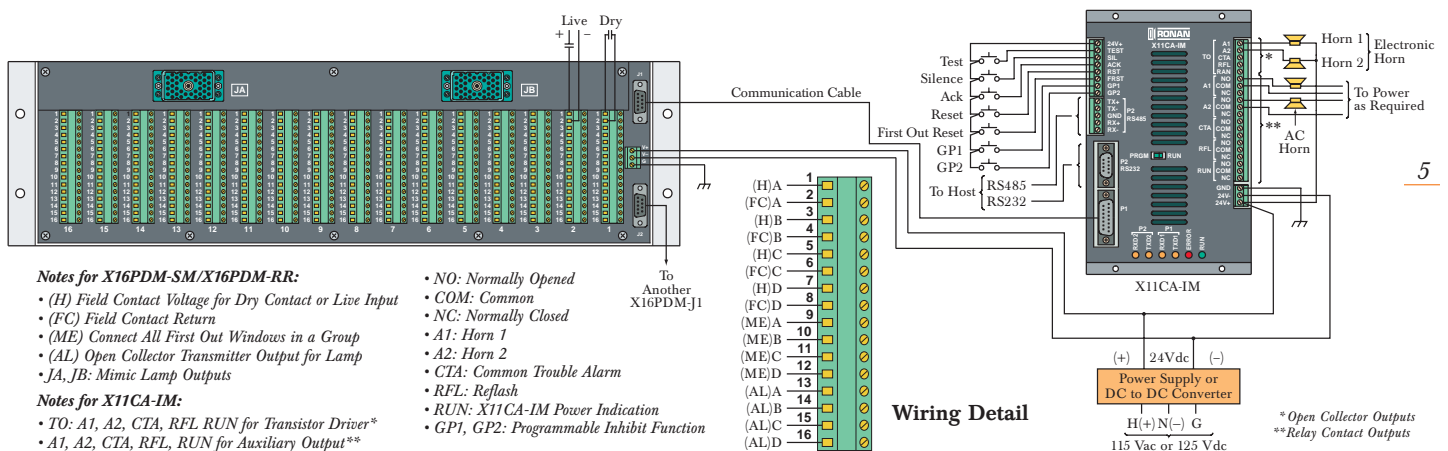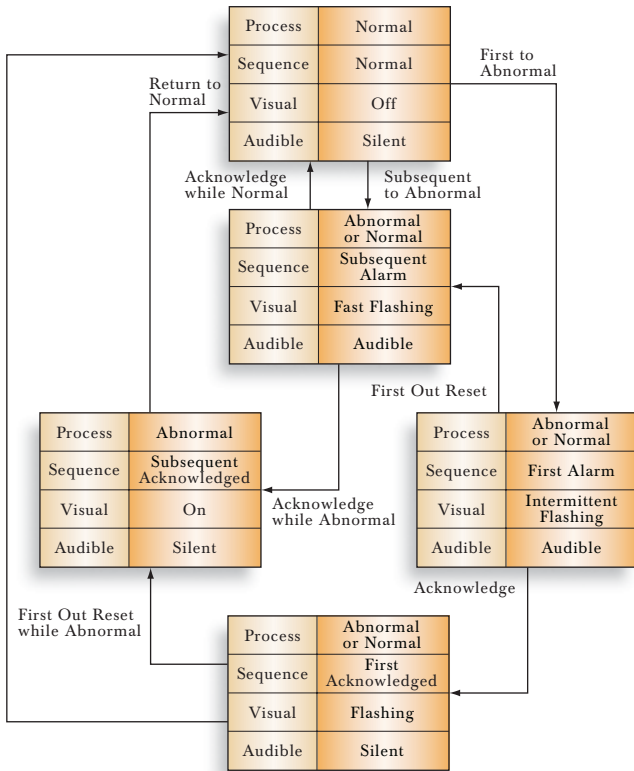

Filter Module

MODEL X16PDM-SM WIRING

*Open Collector Outputs
**Relay Contact Outputs

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Wire
or
Multiconductor Cable

FC

Field Terminal Assembly

X16PDM-SM

X11CA-IM

Human Machine Interface

Wire
or
Multiconductor Cable

FC

Field Terminal Assembly

X16PDM-RR

Serial Alarm Output

X11CA-IM

Multiconductor Cable
or
Wire

Lamp Box

FC

X16PDM-SM

Serial Alarm Output

X11CA-IM

Multiconductor Cable
or
Wire

Inlay or Mosaic Graphic

MODEL X16PDM-RR WIRING

Live Dry

Communication Cable

JA

JB

To Another X16PDM-J1

Test
Silence
Ack
Reset
First Out Reset
GP1
GP2
To Host

RS485
RS232

X11CA-IM

Horn 1
Horn 2
Electronic Horn

To Power as Required

AC Horn

(H)A — 1
(FC)A — 2
(H)B — 3
(FC)B — 4
(H)C — 5
(FC)C — 6
(H)D — 7
(FC)D — 8
(ME)A — 9
(ME)B — 10
(ME)C — 11
(ME)D — 12
(AL)A — 13
(AL)B — 14
(AL)C — 15
(AL)D — 16

Wiring Detail

(+) 24Vdc (−)

Power Supply or DC to DC Converter

H(+) N(−) G
115 Vac or 125 Vdc

* Open Collector Outputs
** Relay Contact Outputs

Notes for X16PDM-SM/X16PDM-RR:
• (H) Field Contact Voltage for Dry Contact or Live Input
• (FC) Field Contact Return
• (ME) Connect All First Out Windows in a Group
• (AL) Open Collector Transmitter Output for Lamp
• JA, JB: Mimic Lamp Outputs

Notes for X11CA-IM:
• TO: A1, A2, CTA, RFL RUN for Transistor Driver*
• A1, A2, CTA, RFL, RUN for Auxiliary Output**

• NO: Normally Opened
• COM: Common
• NC: Normally Closed
• A1: Horn 1
• A2: Horn 2
• CTA: Common Trouble Alarm
• RFL: Reflash
• RUN: X11CA-IM Power Indication
• GP1, GP2: Programmable Inhibit Function

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Sequence F3A Diagram

Process	Normal
Sequence	Normal
Visual	Off
Audible	Silent

Return to Normal

First to Abnormal

Acknowledge while Normal

Subsequent to Abnormal

Process	Abnormal or Normal
Sequence	Subsequent Alarm
Visual	Fast Flashing
Audible	Audible

First Out Reset

Process	Abnormal
Sequence	Subsequent Acknowledged
Visual	On
Audible	Silent

Acknowledge while Abnormal

Process	Abnormal or Normal
Sequence	First Alarm
Visual	Intermittent Flashing
Audible	Audible

Acknowledge

First Out Reset while Abnormal

Process	Abnormal or Normal
Sequence	First Acknowledged
Visual	Flashing
Audible	Silent

S E Q U E N C E   F 3 A

Automatic Reset First Out Reset with First Out Flashing and Reset Push Button

- Acknowledge First Out Reset and Test Push Buttons
- Alarm Audible Device
- Lock-in of Momentary Alarms until Acknowledged
- First Out Flashing Different from Subsequent Flashing
- First Out Reset Push Button to Change the First Out Visual Indication to be the Same as Subsequent Visual Indications
- Automatic Reset of Acknowledged Alarm Indications when Process Conditions Return to Normal
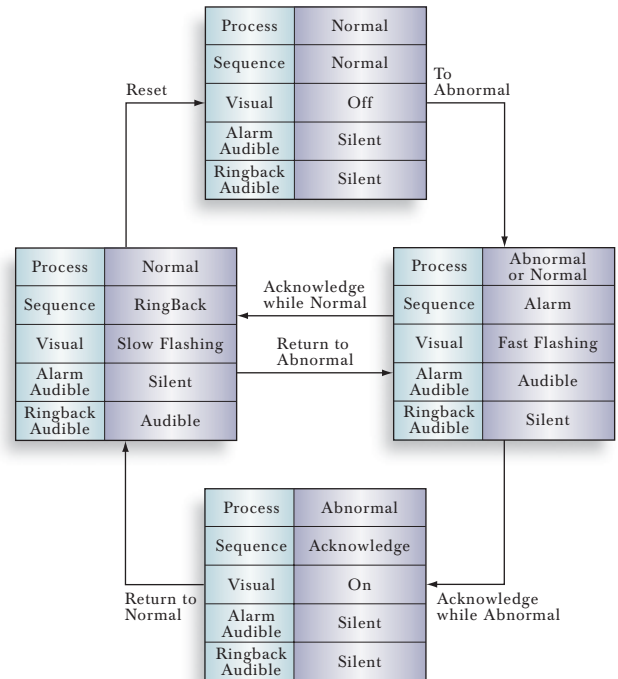- Operational Test

Basic Sequence Letter	Key Words	Option Number	Key Words
A	Automatic Reset	1	Silence Push Button
M	Manual Reset	2	Silence Interlock
R	Ringback	3	First Out Reset Interlock
		4	No Lock-in
		5	No Flashing
		6	No Audible
		7	Automatic Alarm Silence
		8	Common Ringback Audible
		9	Automatic Ringback Silence
First Out Designation	**Key Words**	**Option Number**	**Key Words**
F1	No Subsequent Alarm State	10	No Ringback Audible
F2	No Subsequent Alarm Flashing	11	Common Ringback Visual
F3	First Out Flashing and Reset Push Button	12	Automatic Momentary Ringback
		13	Dim Lamp Monitor
		14	Lamp Test

Sequence M Diagram

Process	Normal
Sequence	Normal
Visual	Off
Audible	Silent

Reset while Normal

To Abnormal

Process	Abnormal or Normal
Sequence	Acknowledged
Visual	On
Audible	Silent

Acknowledge

Process	Abnormal or Normal
Sequence	Alarm
Visual	Flashing
Audible	Audible
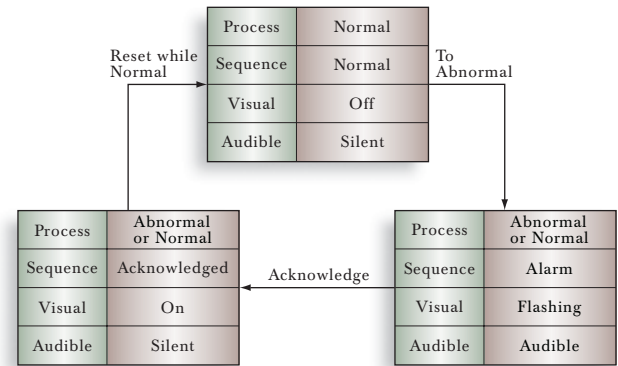
S E Q U E N C E   M

Manual Reset

- Acknowledge, Reset and Test Push Buttons
- Alarm Audible Device
- Lock-in Momentary Alarms Until Acknowledged
- The Audible Device is Silenced and Flashing Stops when Acknowledged
- Manual Reset of Acknowledged Alarm Indications after Process Conditions Return to Normal
- Operational Test

Sequence R Diagram

Process	Normal
Sequence	Normal
Visual	Off
Alarm Audible	Silent
Ringback Audible	Silent

Reset

To Abnormal

Process	Normal
Sequence	RingBack
Visual	Slow Flashing
Alarm Audible	Silent
Ringback Audible	Audible

Acknowledge while Normal

Return to Abnormal

Process	Abnormal or Normal
Sequence	Alarm
Visual	Fast Flashing
Alarm Audible	Audible
Ringback Audible	Silent

Return to Normal

Process	Abnormal
Sequence	Acknowledge
Visual	On
Alarm Audible	Silent
Ringback Audible	Silent

Acknowledge while Abnormal

S E Q U E N C E   R

Ringback

- Acknowledge, Reset and Test Push Buttons
- Alarm and Ringback Audible Devices
- Lock-in of Momentary Alarms until Acknowledged
- The Audible Device is Silenced and Fast Flashing Stops when Acknowledged
- Ringback Visual and Audible Indications when Process Conditions Return to Normal
- Manual Reset of Ringback Indications
- Operational Test

HOST INTERFACE MODULE
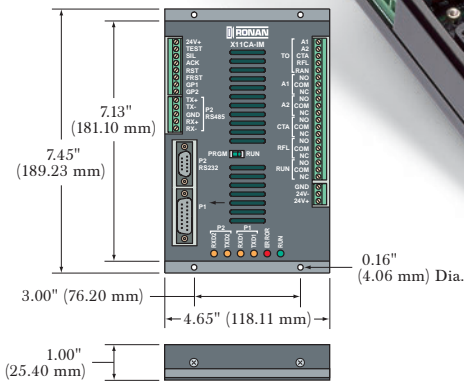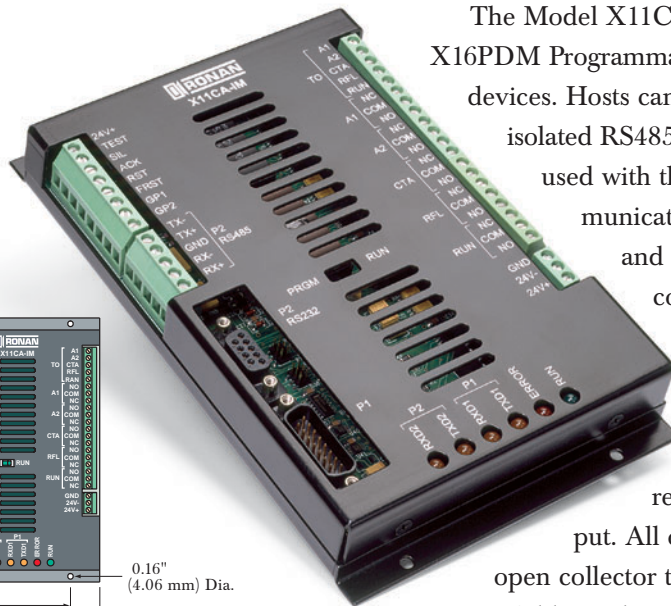
The Model X11CA-IM Interface Module connects the X16PDM Programmable Digital Monitor with external host devices. Hosts can be a DCS, PLC, or plant computer. An isolated RS485 or a 10 Base T network connection is used with the most common industry accepted communication standards such as MODBUS, DF1, and TCP/IP protocols for host network communication.

The Module provides a number of special features such as time-stamped event archive, common trouble alarm, dual horn output, reflash output, and system diagnostic output. All outputs are provided in the form of an open collector transistor and selectable Form C dry contact. Additional on-board LEDs are designed to indicate serial communication and system status.

7.13" (181.10 mm)
7.45" (189.23 mm)
3.00" (76.20 mm)
4.65" (118.11 mm)
1.00" (25.40 mm)
0.16" (4.06 mm) Dia.

ALARM SEQUENCE/DISPLAY MODULE

The Ronan Model X16PDM is designed with all sequences available internal to each module, allowing for field programmable selections of all commonly used ISA sequences through a computer or laptop using simple graphical user interface entry. Selection of field contact polarity is allowed through the on board jumpers for each channel. Each alarm/display combination module contains a single, dual, triple, or quad alarm channel with its associated dual lamp or LED displays. The modules are removable from the front without interfering with the remaining modules.
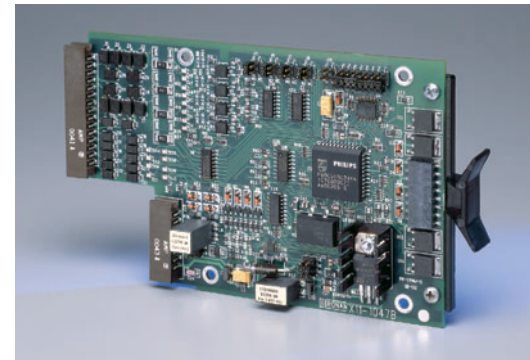
AUXILIARY CONTACT MODULE
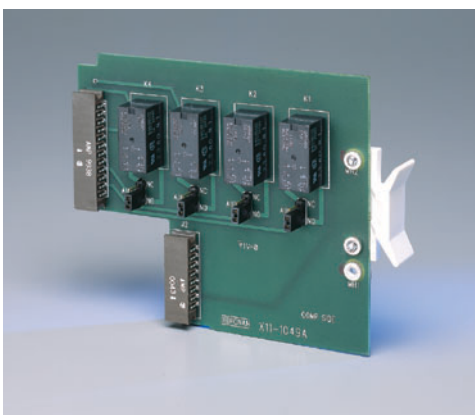
The Auxiliary Contact Module is available for the X16PDM Annunciator with single, dual, triple, or quad relay circuit, according to the density selection. The modules plug in from the front of the system. Each relay provides for a form A or B type contact, normally open or normally closed, and normally energized or normally not energized, and is selectable by a jumper switch.

The Ronan X16PDM Programmable Digital Monitors are configured fully with the use of a Windows graphical user interface application operating in a Windows environment on a PC or Laptop through an RS232 serial connection to the X11CA-IM interface module.

The application allows for factory or field programmability of all features for each window. Configuration data is saved in non-volatile memory on-board each module.

Selections such as alarm sequence, first out grouping, operational or lamp test, output signals follow alarm or field contact, time delay and special functions are all set through the configuration application software.
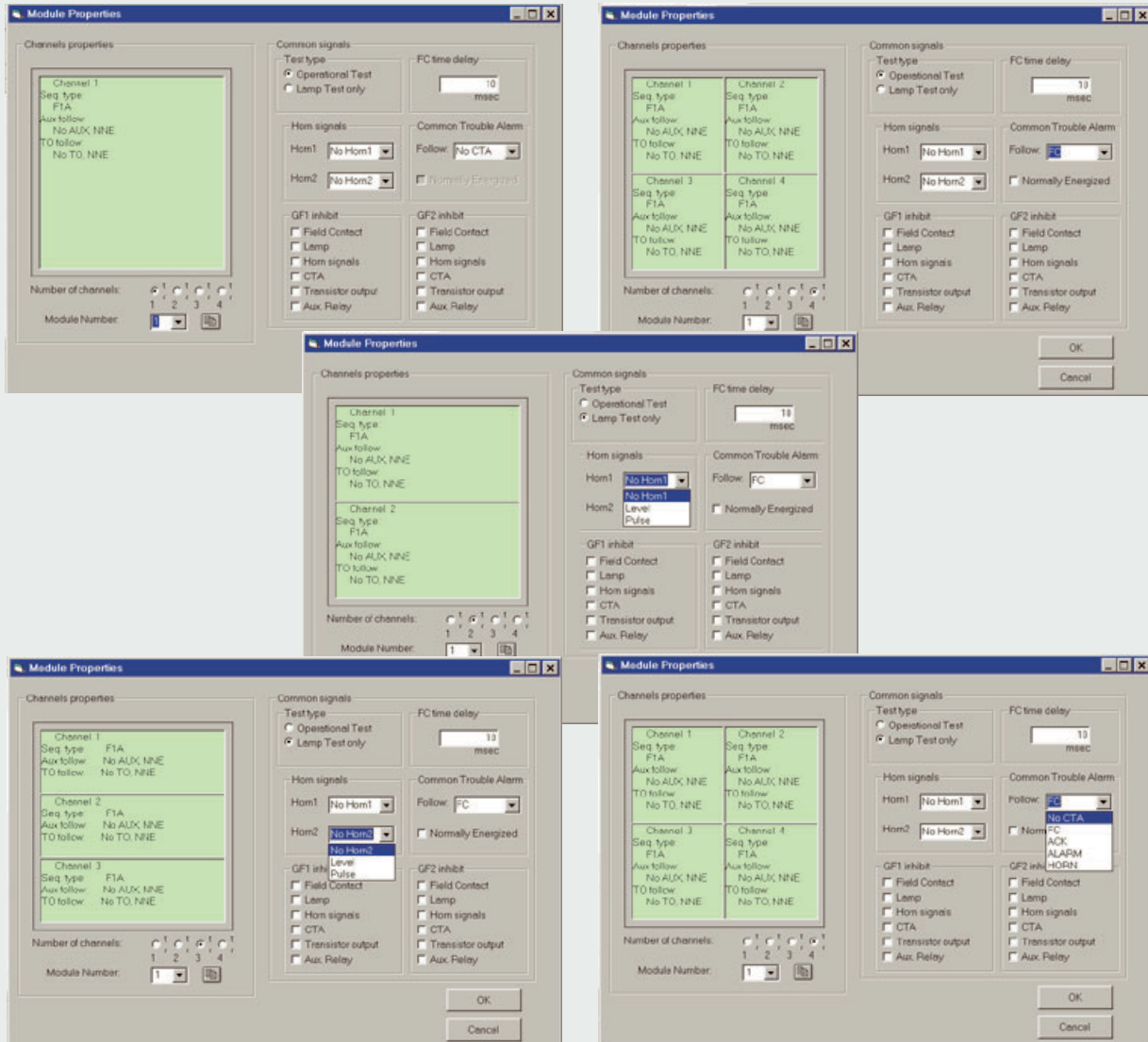
GRAPHIC MONITORING APPLICATION SOFTWARE

Ronan X16PDM easily interfaces with all common industry display software such as Wonderware®, RS View®, Intellusions®, etc. Ronan provides the X16PDM System with HMI/MMI software and hardware for all monitoring requirements of state-of-the-art installations.

Ronan provides OPC configuration software of graphics and object tagging, all based on process or plant requirements. The system easily adapts to a graphics CRT based annunciator for special annunciator applications.

Computer Hardware Options:
- Standard PCs
- Hardened Industrial PCs
- Dust and Moisture Proof
- Touch Screen Systems
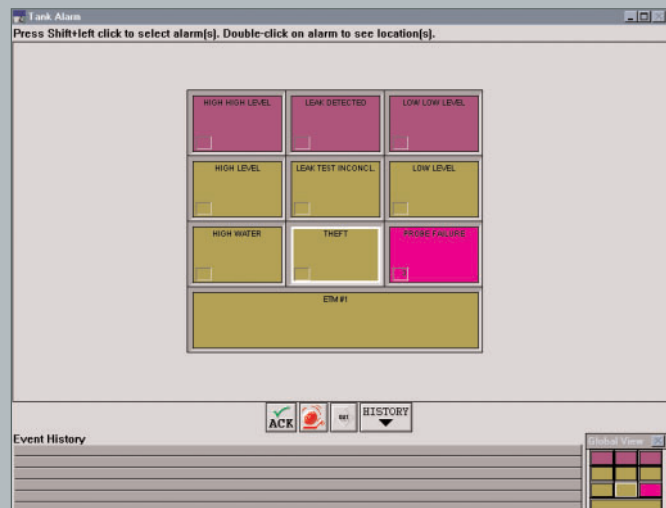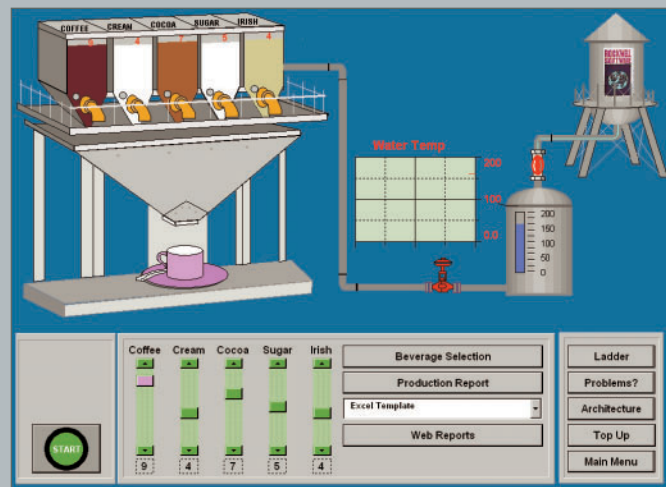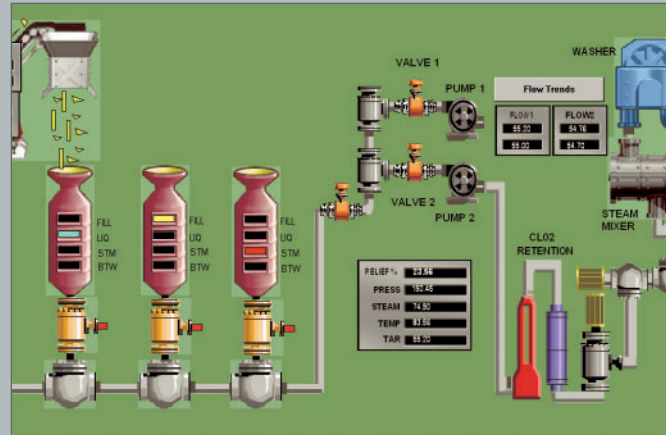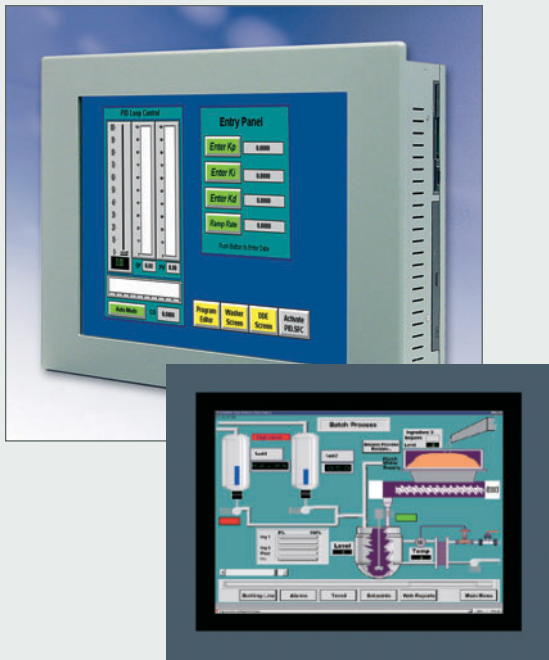
Typical Graphical User Interfaces

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The Ronan X16PDM Programmable Digital Monitors have comprehensive serial alarm communication facilities to interface to Host machines and transfer field input status to, or receive alarm data from PLCs, DCSs, Network Alarm Servers and Computers.

MODBUS RTU SLAVE

The MODBUS RTU Slave protocol allows users of PLCs and DCSs that are operating as MODBUS Masters to periodically acquire the status of annunciator inputs or transmit alarms to the annunciator for process monitoring. Status of the annunciator is continuously updated in a pre-defined Memory Register Map complying to the MODBUS protocol. The Host (MODBUS Master) periodically reads or writes to the Memory Register Map serially using pre-defined MODBUS command sets. The data is then used for process monitoring.

X16PDM

X11CA-IM

Events

DCS, PLC or Computer
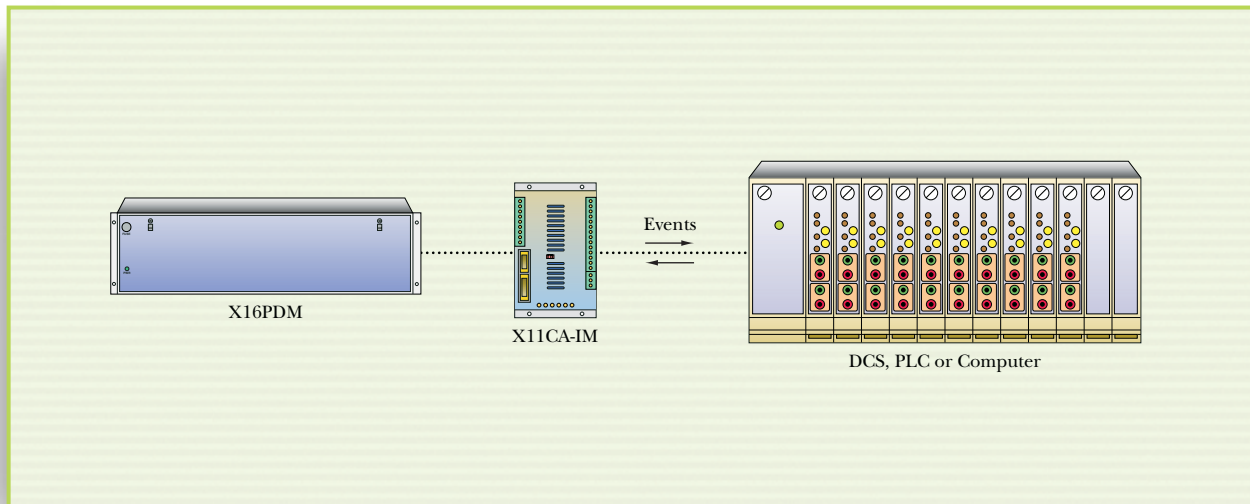
ALLEN BRADLEY DF1 INTERFACE

The Allen Bradley DF1 protocol allows users of AB PLCs to periodically acquire or transmit alarm data to or from the annunciator for monitoring and control. The input status is periodically transmitted as a bitmap complying to the DF1 protocol. The PLC provides an open serial port to send or receive the bitmap status.

Transport Control Protocol/Internet Protocol (TCP/IP)

The Ronan X16PDM provides as an optional connection to a local or plant network using the X11CA-IM interface module and X11CA-NM network converter module. The input alarm status is transmitted or received via TCP/IP at speeds of up to 10 MB all across the network.
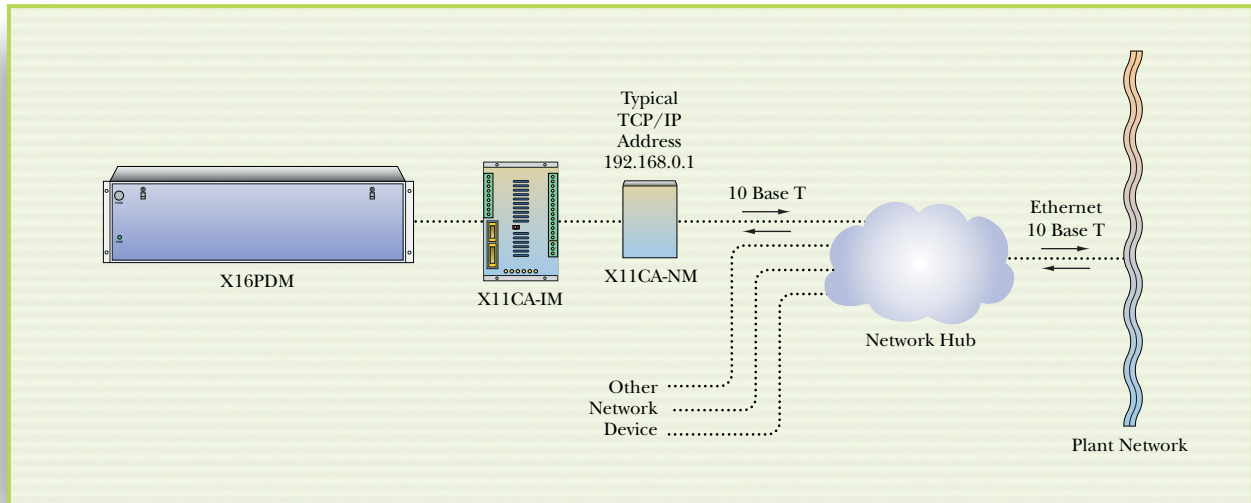

R O N A N   P R O P R I E T A R Y (Alarm/Normal)

The X16PDM provides features to serially transmit input alarm status to external host devices through X11CA-IM. This feature can be used to transfer input alarm status serially to Ronan's X110 Serial Annunciator for remote visual annunciation display.


11
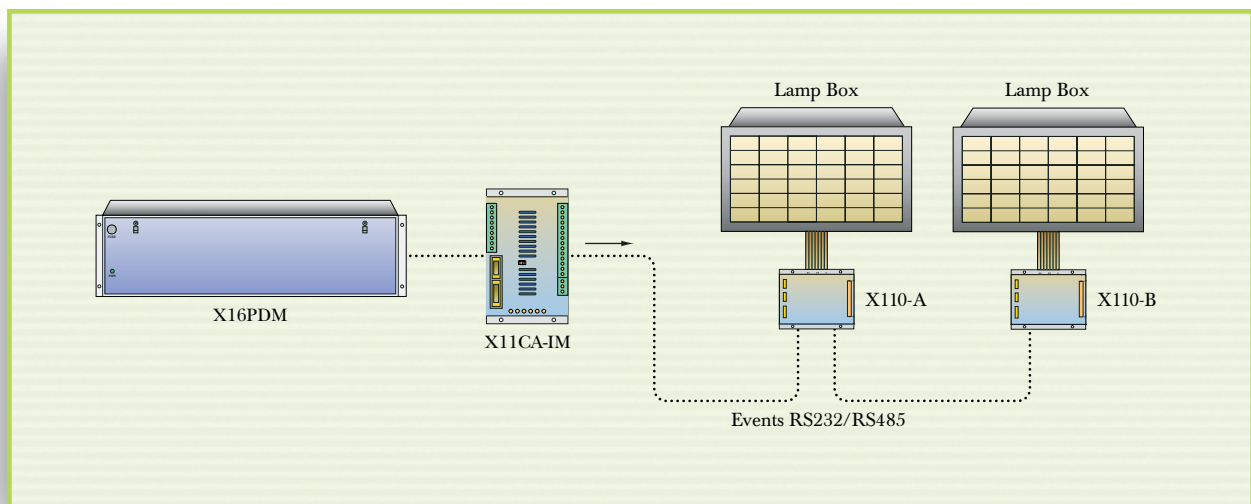
OPC INTERFACE (Object Linking & Embedding for Process Control)

OPC is designed to allow client applications access to alarm input status of a system in a consistent manner. With wide industry acceptance, OPC provides easy integration into the common Human Machine Interface (HMI) applications widely used in the process industry.
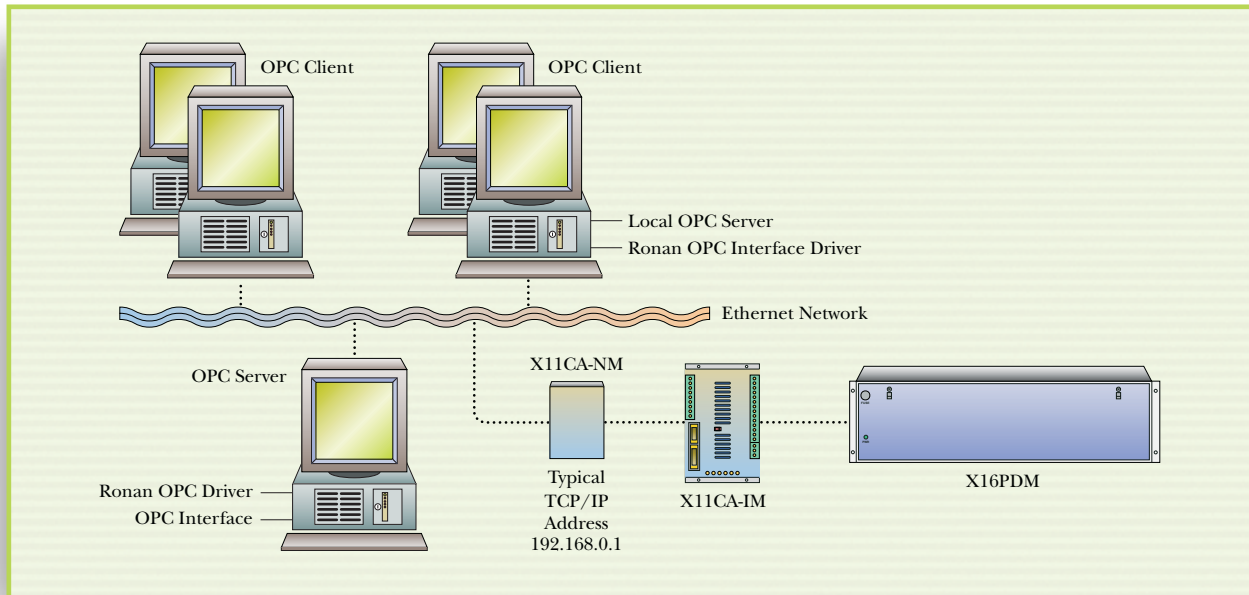
TYPICAL APPLICATION

The X16PDMs feature an optional 32 bit Windows NT driver and mechanisms for OPC clients to be notified of the occurrences of specified events and alarm conditions. They also provide services which allow OPC clients to determine the events and conditions supported by an OPC server, and to obtain their current status.
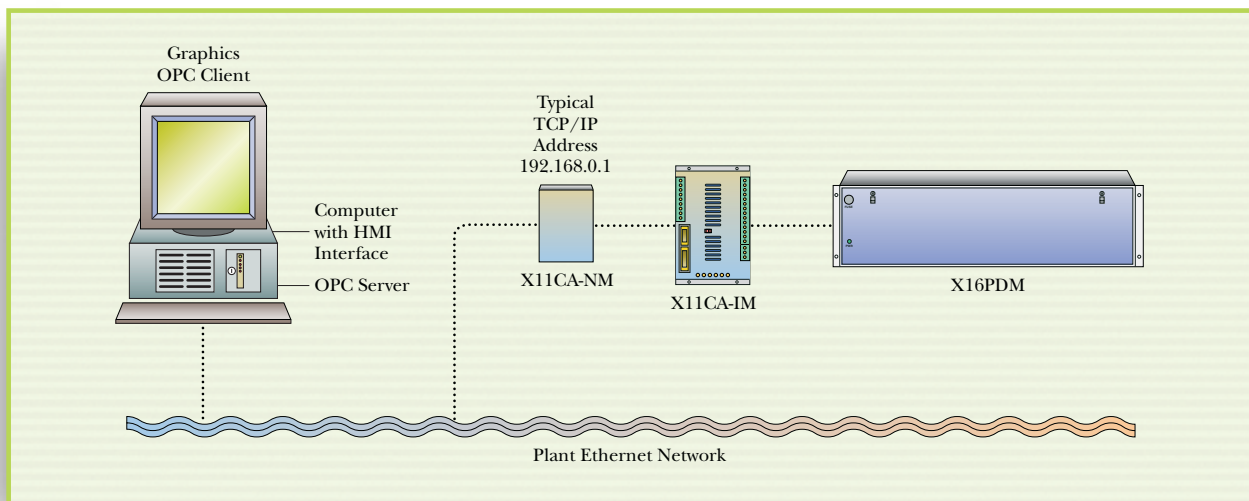
System Voltage:
- Lamps, Logic – 24 Vdc ± 20%
- Field Contacts – 24 Vdc, 48 Vdc, 125 Vdc, 115 Vac, or 240 Vac

Power Source (System External):
- Power Supply – 115 Vac 50/60 Hz; 240 Vac 50/60 Hz
- Converter – 24 Vdc, 48 Vdc, or 125 Vdc

Temperature Range:
- Operating – 0° to 60° C (32° to 140° F)
- Storage – -40° to +85° C (-40° to +185° F)

Inputs:
- Contact – Dry or Live; Normally Open / Normally Closed
- Field Selectable
- Interrogation Voltage – 24 Vdc, 48 Vdc, 125 Vdc, 115 Vac, or 240 Vac

Response Time: 10 Milliseconds

EMI/RFI Capability: CE Compliant

Outputs:
- Visual – Fast Flash, Slow Flash, Steady ON, Intermittent Fast Flash
- Audible – Dual, Selectable by Cabinet Module
- Auxiliary Relays – Form C, Selectable Form A or B; Normally Not Energized or Normally Energized
- Contact Rating – General Purpose: 2 Amps @ 28 Vdc; 0.65 Amp @ 115 Vac
- Common System Trouble: Form C, 2 Amps @ 28 Vdc; 0.65 Amp @ 115 Vac – Open Collector Transistor Output 200 mA @ 28 Vdc
- Common System Reflash: Form C, 2 Amps @ 28 Vdc; 0.65 Amp @ 115 Vac – Open Collector Transistor Output 200 mA @ 28 Vdc

Controls:
- Momentary Push Button: Integral or Remote; Single Pole
- Normally Open; +V Switched; Silence; Acknowledge;
- Reset, Test, GP1, GP2

Diagnostic:
- System Trouble Alarm (RUN) - Form C, 2 Amps @ 28 Vdc; 0.65 Amp @ 115 Vac
- System Trouble Alarm (RUN) - Indicating LED Green
- Communication Diagnostic (ERROR) - Indicating LED Red
- Transmit/Receiver LED Pair

Communications:
- Serial - RS485 (P1) to External Host
- Network - RJ45 (TCP/IP) to External Host

Serial Protocols:
- MODBUS RTU, Allen Bradley, DF1, DNP 3.0, Ronan Proprietary

Network Protocols: TCP/IP (OPC)

Serial:
- RS232 (P2) - System Sequence and Option Programming via Laptop or Computer
- Software - Ronan X11CA Configuration

Special Feature:
- Alarm Time Stamping
- Alarm Storage - 500 Alarms
- GP1, GP2 - Special Function Push-button Interface

To specify the correct power supply, count the number of alarm modules you need to power from the supply. Calculate the total requirement as follows:

Total Watts = No. of Modules x F(Factor + F Aux.) + P(IM)

Model	F Module	F Aux. Relay Adder	P(IM)
X11PDM	3W	4W	10W

Match the total wattage with the next higher power rating of the Power Supply or Converter listed.

DC/DC Converters
Model - Power Failure, Circuit Breaker, Power ON Light, Diode Gated

125 - 24/125 - 150 SCP
125 - 24/125 - 300 SCP
125 - 24/125 - 600 SCP
48 - 24/125 - 150 SCP
48 - 24/125 - 300 SCP
48 - 24/125 - 600 SCP

Power Output Watts
DC Voltage Out
DC Voltage In
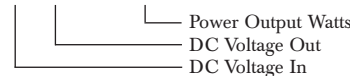
AC/DC Power Supplies

115 - 24 - 125
115 - 24 - 250
115 - 24 - 375
116 - 24 - 500
115 - 24 - 750
220 - 24 - 125
220 - 24 - 250
220 - 24 - 375
220 - 24 - 500
220 - 24 - 750
115 - 24/125 - 125
115 - 24/125 - 250
115 - 24/125 - 375
115 - 24/125 - 500
115 - 24/125 - 750
115 - 24 - 250DA
115 - 24 - 375DA
115 - 24 - 500DA
115 - 24 - 750DA

AC Voltage In
DC Voltage Out
Power Output Watts
Diode Gated Output
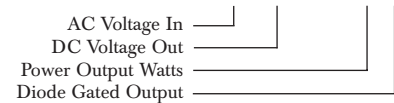
X16PDM PROGRAMMABLE DIGITAL MONITORS

Logic Chassis (Rack-mount/Surface-mount)

X16PDM-RR-16-T — 16 Module (64 Points Maximum without Auxiliary Contacts/32 Points with Auxiliary Contacts), Terminals Only

X16PDM-RR-16-TE — 16 Module (64 Points Maximum without Auxiliary/32 Points with Auxiliary Contacts), Elco Connector for Lamp Driver

X16PDM-SM-8-T — Module (32 Points without Auxiliary Contacts/16 Points with Auxiliary Contacts), Terminals Only

X16PDM-SM-8-TE — Module (32 Points without Auxiliary Contacts/16 Points with Auxiliary Contacts), Elco Connector for Lamp Driver

X16PDM-SM-16-T — Module (64 Points without Auxiliary Contacts/32 Points with Auxiliary Contacts), Terminals Only

X16PDM-SM-16-TE — Module (64 Points without Auxiliary Contacts/32 Points with Auxiliary Contacts), Elco Connector for Lamp Driver

Notes: 1. Each X16PDM Chassis will require an X11CA-IM Interface Module.
2. X16PDM-RR Rack-mount Chassis available in 16 modules only.
3. For every Auxiliary Module an associated Alarm Module is required.
4. For Auxiliary Module selection, refer to X11CA Literature. Use Quadalarm Aux. only.
5. For Lamp Cabinet selection refer to Ronan Lamp Cabinet Literature.
6. For Communication Cables refer to table below.

Alarm Modules

X16PDM - (A) - (B) - (C) - (D)

A. Sequence Type: *(Other sequences available)*
- **M** = ISA M-1
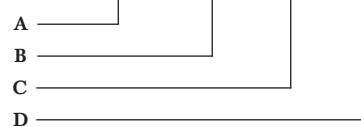- **F3** = ISA F3A-1
- **ASL** = ISA A-4, 5, 6

B. Field Contact Voltage:
- ***0** = 24 Vdc, Not Opto-isolated
- **1** = 115 Vac or 125 Vdc, Opto-isolated
- **2** = 48 Vac or 48 Vdc, Opto-isolated
- **3** = 240 Vac or 250 Vdc, Opto-isolated
- **4** = 24 Vdc, Open Collector

C. Special Options and CTA**:
- ***00** = Operational Test, NNE CTA follows FC
- **04** = Operational Test, NNE CTA follows Alarm
- **09** = Lamp Test, NO CTA, Lamp Inhibit Input on F4, Dual Horn Selectable
- **10** = Lamp Test, NNE CTA follows FC
- **11** = Lamp Test, NNE CTA follows FC, Lamp Inhibit on F4, Dual Horn Selectable
- **12** = Operational Test, NNE CTA follows FC, Lamp Inhibit Input on F4, Dual Horn Selectable
- **13** = Option 09 and Four Point Lamp Holder on Non-4000 System
- **16** = Lamp and Operational Test PB, NNE CTA follows FC, First Out Reset and Reset PB
- **17** = Operational Test, NNE CTA follows FC, Dual Horn Selectable
- **18** = Operational Test, NNE CTA follows FC
- **19** = Operational Test, NNE CTA follows FC, FC Time Delay
- **20** = Lamp Test, NNE CTA follows FC, FC Time Delay
- **21** = Operational Test, NNE CTA follows FC, FC Time Delay, Lamp Inhibit Input on F4, Dual Horn Selectable
- **22** = Lamp Test, NNE CTA follows FC, FC Time Delay, Lamp Inhibit on F4, Dual Horn Selectable
- **23** = Operational Test, NNE CTA follows FC, Lamp Mimic Output on TOA-TOD

D. Auxiliary Relay Behavior:
- **1** = NE Aux follows FC
- ***2** = NNE Aux follows FC
- **3** = NE Aux follows Alarm
- **4** = NNE Aux follows Alarm
- **5** = NE Aux follows Acknowledge
- **6** = NNE Aux follows Acknowledge
- **7** = NE Dual Aux follows FC
- **8** = NNE Dual Aux follows FC

*Standard options   **CTA = Common Trouble Alarm

Filter Module

X16PDM-FF-24 Vdc — Plug-in Filter Module with Protection Fuse

Auxiliary Contact Modules

X11CA - ( ) - AUX - ( )

Notes: Modules contain relays only. Universal Chassis allow addition of Auxiliary Contact Modules in the field.
Surface-mount Chassis provide 1 amp @ 24 Vdc.

- **1** = Monalarm
- **2** = Dualarm
- **3** = Trialarm
- **4** = Quadalarm

Relay Type:
- **GP** = General Purpose Relay, 1 Amp @ 24 Vdc, 0.50 Amp @ 115 Vac
- **HS** = Hermetically Sealed Relay, 1 Amp @ 24 Vdc, 0.50 Amp @ 115 Vac

INTERFACE MODULES / COMMUNICATION

Interface Modules

X11CA-IM - ( ) - ( ) - ( )

       A
       B
       C

A. Voltage
  0 = 24 Vdc

B. Communication Protocol
  1 = Serial MODBUS RTU Slave
  2 = Serial Allen Bradley DF1
  3 = Serial Ronan Proprietary (X110)
  4 = Network TCP/IP (Requires X11CA-NM, X11CA-SC-4 and X11CA-SC-5)
  5 = Network TCP/IP (OLE for Process Control OPC) (Requires X11CA-NM, X11CA-SC-4 and X11CA-SC-5)
  6 = Consult Factory for Special Protocols
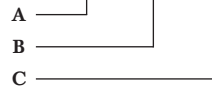
C. Physical Communication Layer to Host
  1 = RS232
  2 = RS485
  3 = Network 802.11 (RJ45)

X11CA-NM: RS232 to TCP/IP Network Converter Module

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COMMUNICATION CABLES

X16PDM-LC - 1 - ( ) - ( ) X16PDM Logic to Lamp Cabinet, 38 Conductor, with Elco Connectors at Each End, 10.00 Feet (3.05 Meters)

X16PDM-LC - 2 - ( ) - ( ) X16PDM Logic to Lamp Cabinet with Elco Connector on X16 Side, Stripped Ends on Lamp Cabinet, 10.00 Feet (3.05 Meters)

X16PDM-LC - 3 - ( ) - ( ) X16PDM Logic to Field Termination with Elco Connectors at Each End, 10.00 Feet (3.05 Meters)

X16PDM-LC - 4 - ( ) - ( ) X16PDM Logic to Field Termination with Elco Connector at Logic, Stripped Conductor at Terminals, 10.00 Feet (3.05 Meters)

X16PDM-LC - 5 - ( ) - ( ) X16PDM Programmable Digital Monitor to X11CA-IM

X16PDM-LC - 6 - ( ) - ( ) X11CA-IM to Host RS232, 25.00 Feet (7.62 Meters)

X16PDM-LC - 7 - ( ) - ( ) X11CA-IM to Host RS485, 25.00 Feet (7.62 Meters)

X16PDM-LC - 8 - ( ) - ( ) X11CA-IM to X11CA-NM, 6.00 Feet (1.83 Meters)

X16PDM-LC - 9 - ( ) - ( ) X11CA-NM to Host (Category 5), 25.00 Feet (7.62 Meters)

X16PDM-LC - 10 - ( ) - ( ) Xl6PDM Programmable Digital Monitor to X16PDM, 25.00 Feet (7.62 Meters)

X16PDM-LC - 11 - ( ) - ( ) Cable Assembly, X11CA-IM to Computer/Laptop, 6.00 Feet (1.83 Meters) Standard Length (For Programming and Configuration)

          Length (Feet)
        Cable Type: **0** = PVC
                1 = XPLE

WARRANTY

Ronan warrants equipment of its own

manufacture to be free from defects in

material and workmanship, under

normal conditions of use and service,

and will repair or replace any component

found to be defective, on its return,

transportation charges prepaid, within

three (3) years of its original purchase.

This warranty carries no liability,

either expressed or implied,

beyond our obligations to replace

the unit which carries the warranty.

RONAN

RONAN ENGINEERING COMPANY
Display Products Division