APANTEC

DORA
Gamma GM Detector
Detector of Radiological Activity

INTERNET READY	ETHERNET TCP/IP

(5"x 4" x 3", <2 lbs)

FEATURES:

- **High-speed embedded microprocessor**
- **Energy compensated G-M Tube**
- **Time-to-count G-M tube control circuitry**
- **Built in high-voltage power supply**
- **RS-485 serial communications port**
- **TCP/IP Ethernet port for networking**
- **LED status indicators (Normal/Alarm)**
- **Audible alarm indicator with acknowledge**
- **High alarm solid-state relay output, rated 0.15A @28 VDC**
- **0-5V analog input**
- **One (1) 0-10VDC analog output.**
- **xD card stores 16MB via serial Ethernet ports**
- **Local trend display**
- **Optional extended range 10 μR/h to 1,000 R/h**
- **Optional extended range 0.1 to 100 Sv/hr.**
- **External 'Smart' probe port**

DORA is an integrated real-time Gamma radiation monitoring device that provides a highly accurate indication of ambient Gamma activity over a wide range. The DORA provides normal/high radiation indication locally and comprehensive rate, dose and status information to a remote computer system or display unit through a high speed Ethernet TCP/IP network. It is built around a high-speed microprocessor core that handles all measurement, indication, communication, and historical record retention. The microprocessor system integrates program FLASH memory for firmware storage, high speed SRAM for program execution, battery-backed SRAM for short-term history storage, xD memory card for expanded long term history storage, real time clock (RTC), Ethernet interface, and serial communications ports.

The serial RS-485 port provides an alternate interface to the Ethernet port for remote data access and local area network. The built-in halogen quenched G-M tube, high-voltage supply, and time-to-count driver are the heart of the radiation measurement system. The 1" diameter by 2" long G-M tube, with energy compensation shielding, provides a nominal sensitivity of 1700 CPM / mR/hr. The G-M tube and time-to-count control techniques give an accurate and highly linear operation from 10 uR/hr background to 10 R/hr.

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Apantec also provides a version of DORA that has an extended range measurement using two G-M sensors located within the DORA enclosure. This optional version will measure a dynamic range of 10 uR/hr to 10,000 R/hr. The energy compensation shield provides uniform energy response over 80 keV to 2.5 MeV. The high voltage power supply is generated internally to provide bias voltage for the G-M tube. Energy response for H*(10) Seivert response is also available covering a range of 0.1uSv/hr to 100 Sv/hr.

Dose rate, integrated dose, and status information are available over TCP/IP Ethernet or RS-485 serial communications. An analog output is also available to provide indication of dose rate, programmable over the dynamic range as a 0-10 VDC signal.

Radiation trend is displayed with a trend bar. Two LED's, an audible alarm, and a relay contact for an external indicator communicate status. The LED's are green for Normal and red for High Alarm. The audible alarm can be muted while the alarm condition still exists by pressing the reset/ack button. The relay provides a contact closure on high alarm. The contacts are isolated from the rest of the probe's circuitry and may be used to control an external annunciator.

DORA is also adaptable to process radiation measurement with an integrated analog input. The analog input allows the unit to monitor external process variables such as temperature, flow or pressure. DORA is powered by 12VDC, 0.5A nominal power. The internal power supply accepts input voltages from 9V to 15V for operation. DORA is housed in a NEMA 12 enclosure for wall mounting.

The enclosure allows the unit to be used in a variety of environments without impacting operation or accuracy. An external "smart" probe port allows expandability and detection of radiation in wide applications. A wide variety of external "smart" probes for measuring alpha, beta, gamma and neutrons are available.

SPECIFICATIONS

Detector:	*Halogen quenched energy compensated GM tube*
Sensitivity:	*1700 cpm/mR/h.*
Range:	*10 uR/hr to 10 R/hr.*
Indicators:	*Alarm: Red* *Normal: Green* *Audible:80 dB@3ft* *w/acknowledge*
Outputs:	*Digital: (1) TCP/IP Ethernet* *(1) RS-485 serial* *Analog: (1) 0-10VDC* *Alarm Relay:* *(150 mA @120 VAC,* *150 mA @ 28VDC)*
Inputs:	*0-5 VDC analog input*
Power:	*12 VDC, 0.5A nominal,* *(9 VDC to 15 VDC)* *(optional 110/220 VAC 50/60 Hz converter available)*
Temp:	*-20 to +50 ℃*
Humidity:	*0-95% RH, non-condensing*
Dimensions:	*5" high x 4" wide x 3" deep*
Weight:	*2 pounds*

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