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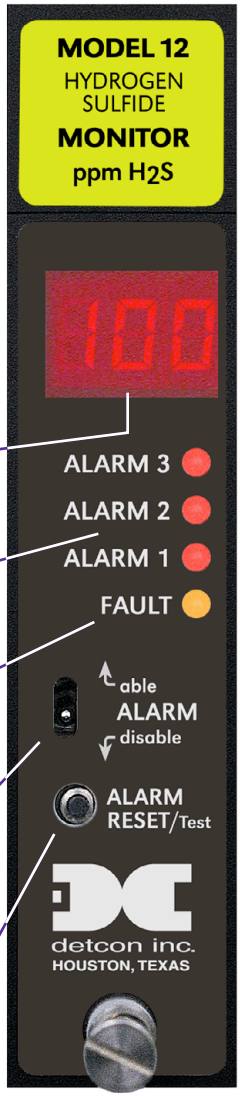
MODEL 12 Controls

Single Sensor Gas Detection Control Modules

3 Alarm Relays
4-20mA and RS-485



- Modular plug-in design
- 4 to 12 channel packaging: NEMA 1, 4X, and 7
- Compatible with PLC's, SCADA, DCS
- Outputs: 4-20 mA, RS-485, and 3 alarm relays
- Status and parameters accessible via RS-485
- Programmable relays standard (3 alarms + fault)
- Five year fixed-fee service policy
- Alarm disable function

DESCRIPTION

Detcon Model 12 single channel digital control modules are designed to supervise and display the status of a single remote sensor assembly. Modules are available for a variety of toxic and combustible gases and are compatible with a complete line of Detcon enclosures and mainframe hardware assemblies.

SPECIFICATIONS

Range
0-100 ppm/% standard
Other ranges available

Accuracy/Repeatability
± 2% F.S.

Operating Temperature Range
-40°C to +80°C; -40°F to +175°F

Input Voltage
24 VDC standard

Power Consumption
<3 watts: <5 watts (full alarm)

Outputs
Analog 4-20 mA DC
Serial RS-485 Modbus™

Relays
Alarm 1, Alarm 2, Alarm 3, Fault
Jumper Selectable Form "A" or Form "B"
Contacts rated 5 amps @ 30 VDC

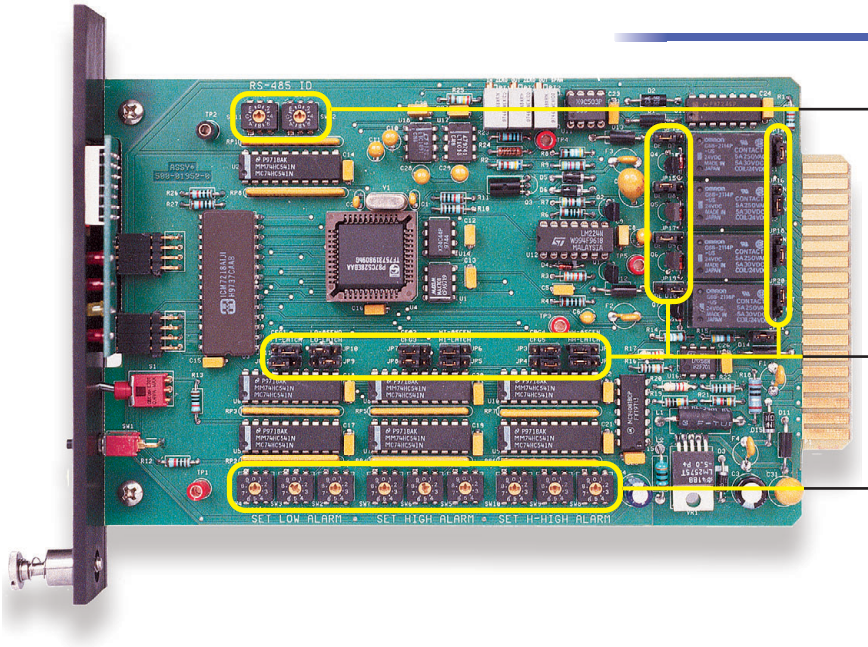
Three digit indicator serves as both a power on indicator and a direct reading display of the gas concentration. The display will also flash on and off during any over-range condition.

Alarm set points are dip switch adjustable in 1 ppm/% increments across the range of detection. Programmable jumpers allow for several user selectable alarm options.

The fault alarm, depending on the jumper programmable configuration, will activate on loss of power, internal power supply fault, open circuit in field wiring, open heater/bridge in sensor, or during an alarm disable condition.

The alarm disable function inhibits alarm relays (Alarm 1, 2 and 3), but leaves alarm LEDs active. The alarm disable function will also activate the fault LED and relay, however, no other Model 12 functions are affected. The toggle type switch is inset slightly behind the front panel in order to prevent accidental disabling of the channel.

The alarm reset switch resets alarms that have been jumper programmed latching. It also acts as a test switch to activate several microprocessor supervised test functions.



RS-485 addresses are set via numeric rotary dip switches. Up to 256 separate addresses are available.

All alarm relays – alarm 1, 2, 3, and fault – can be jumper programmed for dry contact output as either normally open or normally closed; normally energized or normally de-energized; latching or non-latching.

Display range of detection – jumper programmable

Alarms 1, 2, & 3 are adjustable in single digit increments between 10% and 90% of full scale and can be jumper programmed to operate during ascending or descending gas conditions.

See Page 2 for order guide

Rev. 071304

Order Guide

Gas Type	Standard Range*	Model Number	Order Part Number
Acetaldehyde (C2H3O)	0-100 ppm	C2H30-12	912-12EA40-100
Acetylene (C2H2)	0-100 ppm	C2H2-12	912-12EG40-100
Acrylonitrile (C3H3N)	0-100 ppm	C3H3N-12	912-12EM40-100
Ammonia (NH3)	0-100 ppm	NH3-12	912-000040-100
Arsine (AsH3)	0-1 ppm	AsH3-12	912-190040-1X0
Bromine (Br2)	0-5 ppm	Br2-12	912-750040-5X0
Butadiene (C4H6)	0-100 ppm	C4H6-12	912-12EB40-100
Carbon Dioxide (CO2)	0-1%	CO2-12	912-400041-X00
Carbon Monoxide (CO)	0-100 ppm	CO-12	912-440040-100
Chlorine (CL2)	0-10 ppm	CL2-12	912-740040-010
Chlorine Dioxide (CLO2)	0-1 ppm	CLO2-12	912-760040-1X0
Combustible Gas	0-100% LEL	CG-12	912-520040-100
Combustible Hydrocarbons	0-100% LEL	CH-12	912-520040-100
Diborane (B2H6)	0-5 ppm	B2H6-12	912-210040-5X0
Ethanol (C2H5OH)	0-100 ppm	C2H5OH-12	912-12EO40-100
Ethyl Mercaptan (C2H5SH)	0-100 ppm	C2H5SH-12	912-12EZ40-100
Ethylene (C2H4)	0-100 ppm	C2H4-12	912-12ED40-100
Ethylene Oxide (C2H4O)	0-100 ppm	C2H4O-12	912-12EJ40-100
Fluorine (F2)	0-1 ppm	F2-12	912-270040-1XO
Formaldehyde (CH2O)	0-100 ppm	CH2O-12	912-12EP40-100
Germane (GeH4)	0-2 ppm	GeH4-12	912-250040-2X0
Hydrazine (N2H4)	0-1 ppm	N2H4-12	912-260040-1X0
Hydrogen (H2)	0-100 ppm	H2-12	912-840040-100
Hydrogen (H2)	0-100% LEL	H2-12	912-050040-100
Hydrogen Bromide (HBr)	0-30 ppm	HBr-12	912-080040-030
Hydrogen Chloride (HCL)	0-30 ppm	HCL-12	912-140040-030
Hydrogen Cyanide (HCN)	0-30 ppm	HCN-12	912-040040-030
Hydrogen Fluoride (HF)	0-10 ppm	HF-12	912-330050-010
Hydrogen Sulfide (H2S)	0-100 ppm	H2S-12	912-010040-100
Methanol (CH3OH)	0-100 ppm	CH3OH-12	912-12EE40-100
Methyl Mercaptan (CH3SH)	0-100 ppm	CH3SH-12	912-12EK40-100
Nitric Oxide (NO)	0-100 ppm	NO-12	912-940040-100
Nitrogen Dioxide (NO2)	0-5 ppm	NO2-12	912-640040-5X0
Oxygen Deficiency (O2)	0-25%	O2-12	912-340042-5X0
Ozone (O3)	0-1 ppm	O3-12	912-390040-1X0
Phosgene (COCL2)	0-1 ppm	COCL2-12	912-410040-1X0
Phosphine (PH3)	0-5 ppm	PH3-12	912-200040-5X0
Silane (SiH4)	0-50 ppm	SiH4-12	912-230040-050
Sulfur Dioxide (SO2)	0-20 ppm	SO2-12	912-540040-020
Vinyl Acetate (C4H6O2)	0-100 ppm	C4H6O2-12	912-12EF40-100
Vinyl Chloride (C2H3Cl)	0-100 ppm	C2H3Cl-12	912-12EL40-100
Model 12 Series Blank Plate			912-000008-005

*Consult the factory for other ranges.