MST Multi Gas Detector

Honeywell

The Solution for OEM Applications

The MST Multi Gas Detector is a versatile instrument designed to detect a wide range of hazardous gases and is targeted for the OEM user. Up to four different gases can be detected simultaneously with the MST Multi Gas Detector.

The detection principle behind the MST Multi Gas Detector is the electrochemical sensor module. This sensor module is available for up to 30 different electrochemical gas sensors (as per Table 2). In addition the MST Multi Gas Detector is equipped with a pyrolyzer for the detection of fluorinated gases.

The MST Multi Gas Detector has a built in microprocessor and graphical LCD display unit, and has the capability of displaying trend graphs along with alphanumeric information for all sensor modules. All signals within the unit are digital providing a robust resistance for RF interference. The detector utilizes extractive sampling and can be packaged in many different configurations depending on each users requirement. Dry contact relays can be used with the tool for automatic shutdown during alarm conditions. A front panel audible alarm provides warnings for gas concentrations that exceed alarm set points. This audible alarm can be silenced by a convenient front panel control button.

The LCD display shows the status of up to eight different sensor modules, as well as concentration values of each sensor. Dry contact relays can be used with the tool for automatic shutdown during alarm conditions. A front panel audible alarm provides warnings for gas concentrations that exceed alarm set points. This audible alarm can be silenced by a convenient front panel control button.

With its ability to detect many different gases, and its relay outputs to interface with shutdown circuits, the MST Multi Gas Detector is the ideal product to provide on-board hazardous gas detection in a wide range of different OEM applications.

Quick Facts

Applications:

- Process tool monitoring
- Gas handling systems
- Self-contained monitor

Advantages:

- Fast, reliable, gas detection
- Continuous real-time monitoring
- Easily serviced
- Small footprint
- Flexibility to detect different gases in one unit

Technical Overview

Facilities requirements

Power Requirements	
Voltage	110 to 240 VDC
Consumption	approx. 34 W
Alarm Relays	250 VAC, 1.5 A 30 VDC, 3 A
LED Indicators	
Low Alarm	yellow
High Alarm	red
Interface	CAN High Speed 506 kbaud
Display	64 x 100 dots
Physical Dimensions	
Size	19,92 x 43,18 x 13,97 cm
H x W x D	5.875 x 17.0 x 5.50 in
Weight	approx. 5.0 kg
Sample Line	
Inlet	1/4 in OD
Outlet	1/4 in OD
Flow Rate	0.8 lpm
Housing Protection	IP 30
Operating Conditions:	
Temperature	-20 °C to -40 °C
Humidity	10 to 90 % r.h. (non-condensing)

Pre-Configurations

Gas/Type	SiF_4	HBr	Cl_2	CO	NF_3	C_4F_6
Type 110	X	X			X	
Type 120/150	X	X	X		X	
Type 130/160				X		X
Type 140					X	

Table 1

Gases available for MST Multi Gas Detector configuration

Ammonia (NH_3)	Hydrogen Bromide (HBr)
Arsine (AsH_3)	Hydrogen Chloride (HCl)
Bromine (Br_2)	Hydrogen Cyanide (HCN)
Carbon Monoxide (CO)	Hydrogen Fluoride (HF)
Chlorine (Cl_2)	Hydrogen Sulfide (H_2S)
Chlorine Dioxide (ClO_2)	Methylfluoride (Ch_3F)
Chlorine Trifluoride (ClF_3)	Nitrogen Trifuoride (NF_3)
Diborane (B_2H_6)	Ozone (O_3)
Fluorine (F_2)	Phosphine (PH_3)
Germane (GeH_4)	Silane (SiH_4)
Hexafluorobutadien (C_4F_6)	Tetraethylorthosilicate (TEOS)
Hexamethyldisilazane (HMDS)	Trans Dichloroethylene (DCE)
Hydrazine (N_2H_4)	Trimethyl borate (TMB)
Hydrogen (H_2)	Trimethyl phosphite (TMP)

Table 2

Gas Sensors in the MST Multi Gas Detecor and their cross interferencce

Table 3 shows the cross-interference for each of the sensors used in the MST Multi Gas Detector 20304-01xx. An “x “ indicates that the sensor given at the top of the column responds to the gas listed in the respective row. The data is only valid for gas concentrations within the measuring range.

Gas/Sensor	SiF_4	HBr	Cl_2	CO	NF_3	C_4F_6
SiF_4	X				X	X
HBr	X	X			X	X
CO			X		X	
Cl_2	X	X		X	X	X

Table 3

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