

# Single Channel Controllers

**Model 4001**  
**Model 4011**

*Model 4001 and 4011 Single Channel Controllers interface with industry standard two- or three-wire 4-20 mA sensor transmitters and provide the user with concentration display and two independent adjustable alarm levels.*

The Model 4001 and Model 4011 Single Channel Controllers are single channel gas detection controllers that also can be used with most industry standard 4-20 mA or other standard voltage/current sensor transmitters. Both controllers provide the user with two independent adjustable alarm levels. In addition, the output can be continuously sent to a chart recorder.

The alarm relays can be programmed to be either latching or non-latching and to activate either as a rising or falling alarm. When the controller is used with 4-20 mA sensors, a third alarm provides a fault indication when the controller detects loop current less than 3 mA. The alarms are acknowledged via either an external reset switch or a reset push-button on the Model 4011

Each alarm relay is fused to prevent damage from alarm and control circuits. The relays are SPDT Form C type rated at 5 Amps to provide direct alarm action, reducing the need for interposing relays.

**Model 4001**

The Model 4001 is housed in a NEMA 4X wall mount enclosure or the optional NEMA 7 explosion proof enclosure. AC or DC powered versions are available. Both versions include as standard an integral battery charger that can provide a trickle charge to an optional battery to provide reliable continuous service.



**Model 4011**



**Model 4001**

The 3 1/2 digit LCD display can read the concentration or alarm setpoints. LEDs on the front panel provide indication of all three alarms or low battery power.

**Model 4011**

The Model 4011 is in a 1/8 DIN panel mount enclosure. This controller is DC powered. Optional power supply/battery chargers can power to a single unit or up to 4 controllers.

The front panel includes a 3 1/2 digit LCD display, LEDs indicating the three alarms, reset push-button, four display selection LEDs and a Select Pushbutton. The RE-SET button is used to reset the relays when the user has selected Latching or Acknowledge mode. The SELECT button steps the display through each of the four possible selections that will be indicated by the appropriate illuminated LED.

Features	Benefits
● Two adjustable alarm setpoints with latching or non-latching relays	Flexibility to fit your application needs
● 4-20 mA or standard voltage/current input	Interfaces with industry standard sensor transmitters
● Battery backup option	Insure continuous operation
● Chart recorder output signal	Continuous logging of concentration data



SPECIFICATIONS

INPUT SIGNAL: Standard: 4-20mA  
 Factory Options: 0-5V, 0-10 V, 0-20mA

INPUT RESISTANCE: The input loop resistance for the 4-20mA loop is 100 ohms

INPUT POWER: Model 4001 18-24 VDC, Nominal 350 mA, Max. 500 mA.  
 Battery charger feature accepts 120V AC

Model 4011 14-30 VDC, Nominal 100 mA @24VDC without sensor module, 180 mA @20VDC with sensor module at 20 mA loop current

ALARM LEVELS: Two alarms, user adjustable, alarm levels HiHi, HiLo, or LoLo

ALARM CONFIGURATION: Jumper selectable for Latching/Non-Latching. Jumper selectable for Alarming on GREATER or LESS than Alarm Level.

TROUBLE RELAY: Relay de-energizes when loop current is less than 3 mA or when power is removed.

RELAY RATING: SPDT Form C, 28VDC @ 5 Amp (fused), 120 VAC @ 4 Amp

ALARM ACKNOWLEDGE: Model 4001 External alarm reset available - resets latched relays. Alarm relays reset but alarm status LEDs will track actual condition.

Model 4011 Front panel push-button or external alarm reset will reset alarm relays programmed for Latching. Alarm relays reset but alarm status LEDs will track actual condition.

DISPLAY: 3 1/2 digit liquid crystal

RECORDER OUTPUT: 0-2 VDC with RL=1000 ohms minimum. Output proportional to display. Power available is 12VDC @ 50mA

CHARGER OUTPUT (Model 4001): 12 VDC Trickle Charge for battery back-up

ENCLOSURE: Model 4001 NEMA 4X (NEMA 7 optional)  
 11.5"H x 8.0"W x 6.9"D (29.2 x 20.3 x 17.5 cm)  
 11.2 lbs (5.1 Kg)

Model 4011 1/8 DIN  
 1.9"H x 3.8"W x 7.3"D (4.8 x 9.6 x 18.5 cm)  
 1.2 lbs (0.5 Kg)

ORDERING INFORMATION

- 4001-01 Model 4001 Controller, DC, NEMA 4X
- 4001-11 Model 4001 Controller, AC, NEMA 4X
- 4001-12 Model 4001 Controller, AC, NEMA 7
- 4011-00 Model 4011 Controller, DC, DIN  
 (Adding SPM69155 Power Supply converts AC power to DC input to the 4011-00)
- 4346-01 Power Supply/Battery Back-up for 4011
- SPM69155 Power Supply AC/DC for 4011 (plugs in wall socket)(1 unit)

