

FEATURES:

- Accepts up to 16 inputs from many sensor types and signal ranges. Inputs may be analog, or Modbus® Master capability allows input data to be retrieved via RS-485 data highway reducing wiring costs at installation
- 8 channel display mode and option boards allow economical configuration of systems requiring only 8 channels or less
- Dual Modbus RS-485 serial ports for simultaneous master / slave operation. Optional phone modem
- 3 independent alarm levels per channel. *Relay Acknowledge* feature allows silencing of external audible devices during existing alarm conditions
- Graphic LCD readout displays monitored data as trends, bar graphs and engineering units. Alarm LED's flash when *new* and become steady after *acknowledged*
- Standard A SPDT common alarm relays for HORN, HIGH, WARN & FAULT. Optional discrete channel alarm relays also available
- Options such as alarm event printer interface, direct sensor inputs, 4-20mA outputs, discrete alarm relays and others are supported via an I²C expansion bus
- *Cal Mode* offers pushbutton zero / span calibration for direct sensor interface applications. *Authorization Mode* allows locking of critical configuration variables
- Magnetic keypad available for nonintrusive operation in potentially hazardous locations
- NEMA 4X, Explosion-Proof, surface mount, panel and rack mount packaging options available



NEMA 4X Wall Mount
(CSA certified for Div 2 areas!)



Panel / Rack Mount

The R. C. Systems Co., Inc. ST-71 Graphic Display / Alarm Controller is designed to provide simultaneous display and alarm functions for up to 16 input variables. A graphic LCD displays monitored data as trends, bar graphs and engineering units. Three adjustable alarm levels are provided per channel. Relay outputs allow control of beacons horns and other alarm events. A horn relay may be set for steady or pulsing operation.

Analog inputs may be accepted and conditioned via sensor specific analog input cards. Alternatively, the standard Modbus Master port allows input data to be retrieved from Modbus slave devices including the many Modbus compatible R. C. Systems Co. Inc. sensor transmitter products.

The ST-71 is easy to configure and user friendly. Measurement ranges in engineering units, adjustable alarm set-points, dual serial interfaces and many other features combine to allow the ST-71 satisfy the needs of many demanding applications. It is widely used for centralizing the

display and alarm processing functions in critical multipoint monitoring applications. These include monitoring of ambient gas detection, rotating machinery, tank levels, flow, temperature and others.

A RS-485 Modbus slave port allows up to 128 ST-71's to be multidropped onto a single data highway for interrogation by another Modbus master. ST-71's may also be cascaded by connecting one unit's master port to another's slave port.

ST-71 options such as discrete alarm relays per channel, 4-20mA I/O, direct sensor input conditioning and others are added by connecting appropriate 8 channel boards (2 required for more than 8 channels) to the economical I²C expansion bus. Familiar "telephone style" cables and connectors interface to this bus. This method allows versatile system configuration of options satisfying the most unusual user applications.

Nonvolatile memory retains all configuration data indefinitely.

SPECIFICATIONS

ANALOG INPUTS (OPTIONAL)

12 bit 4-20mA into 100 ohms input impedance; includes +power supply terminals for each channel for routing power to 2 or 3 wire transmitters.

SERIAL PORTS

Master & Slave RS-485 half or full duplex ports equipped with Tx / Rx LED's. Protocol = Modbus® RTU.

COMMON ALARM RELAYS

5 amp 30VDC or 250VAC resistive Form C

DISCRETE ALARM RELAYS (OPTIONAL)

5 amp 30VDC or 250VAC resistive Form C

ANALOG OUTPUTS (OPTIONAL)

10 bit 4-20mA output. Max load 800 ohms with nominal 24VDC power supply

DISPLAY

128 x 240 pixel graphic LCD with backlight displays bar graphs, trends and engineering units.

52 discrete LED's indicate alarm status for 3 alarms per 16 channels and common relays

AMBIENT TEMPERATURE RANGE

-25 - 60 degrees C.

POWER SUPPLY

10 - 30VDC (24VDC nominal) 12 watts max

APPROVALS

CSA C22.2 No 1010.1 & 152 for combustibles & ISA S82.02; UL 1604 / C22.2 No 213 (Div 2 Groups A,B,C,D); EN55011 & EN61000 (CE Mark).

HOUSING OPTIONS

NEMA 4X fiberglass wallmount (shown below)

1/2 length 19 inch rack / panel mount (shown below)

NEMA 7 explosion-proof wall mount (see instruction manual)

ORDERING INFORMATION

071-00 = Model ST-71PM panel / rack mount housing

071-01 = Model ST-71N4 NEMA 4X wall mount

071-02 = Model ST-71XP NEMA 7 wall mount explosion-proof housing (includes magnetic keypad for non-intrusive control)

AVAILABLE OPTIONS:

10-0144 = Auxiliary relay board adds 5 amp Form C common relays for Alarm 1, Alarm 2 & Horn

10-0158 = 8 channel 4-20mA analog input board

10-0167 = 8 channel 4-20mA analog output board

10-0195 = 8 channel discrete 5 amp Form C relay board configurable for Alarm 1, Alarm 2 or FAULT

10-0170 = 8 channel Resistive / RTD / mA input board

10-0191 = 8 channel Catalytic Bead Sensor input board
10-0192 = Dual Catalytic Bead modules for 10-0191

10-0172 = 24VDC 150 watt power supply

10-0229 = Printer Interface board (serial / parallel)

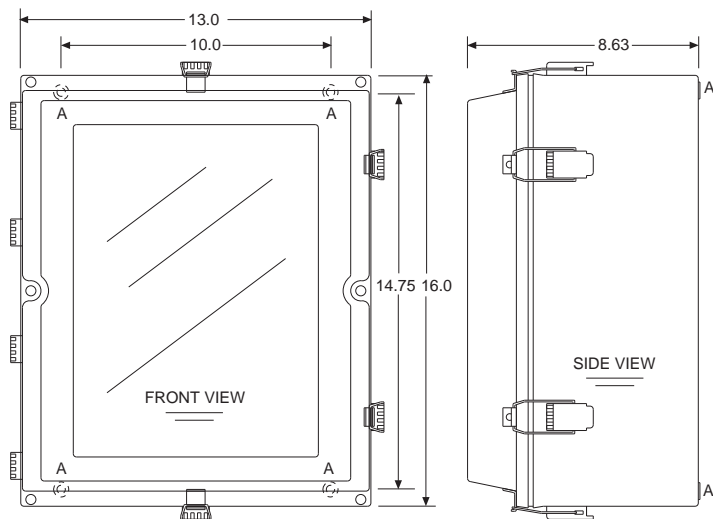
10-0178 = Expansion NEMA4X enclosure for 8 options

10-0208 = Full 19" Rack (Supports 1 or 2 ST-71SM's)

10-0175 = ST-71-HMI software

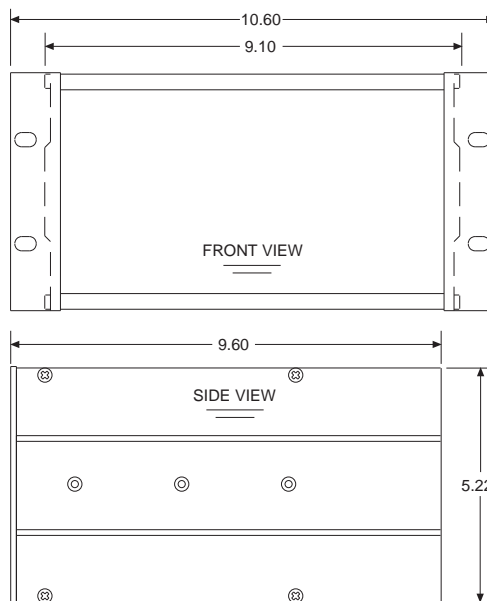
ST-51A = DIN Rail Loop Powered 4-20mA Isolator (isolates 4-20mA inputs or outputs)

Dimensions in Inches



Note: 4 'A' mounting holes are .31 dia.

NEMA 4X WALL MOUNT



Note: Panel cut-out = 5.25 X 9.20

RACK / PANEL MOUNT
(19" RACK SPREADER PLATES &
PANEL MOUNT BEZEL NOT SHOWN)