



# Model 90A Annunciator

FOR POWER GENERATION, TRANSMISSION & DISTRIBUTION, PETROLEUM, PETROCHEMICAL, AND OTHER PROCESS INDUSTRIES



## INNOVATIVE ANNUNCIATOR

Based on the highly acclaimed Series 90, AMETEK's new Model 90A Annunciator brings alarm monitoring to new levels. It has several communication options, can provide time stamped alarms and all features and options are field configurable. Installation and setup have been simplified making this an ideal fit for new projects or system replacements. The unique software configuration provides more features and functions a mouse click away.

### Communications

Transmit or receive alarms using our RS-232/485 serial or Ethernet port. The Model 90A supports Modbus and DNP protocols. Communicate via OPC using our OPC Server Software.

### Compact Size

The annunciator and all electronics including the communication options are self contained within a compact frame less than seven inches deep. In most cases, the power supply is included inside the system simplifying installation and wiring.

### Time Stamped Alarms (SER)

All of your alarms can include a time stamp, synchronized by IRIG-B or our internal clock. This can be presented through Modbus, DNP, OPC or to a local printer or terminal for viewing.

### Flexible Design

The window legends are printed on standard transparency film, making it easy to change legends at any time. The annunciator capacity can be increased with built-in expansion. All features and options are field selectable and upgradeable.

### Software Configuration

While all systems are pre-configured to your specifications, the software configuration tool unleashes the true power of the Model 90A.



You can select any operational sequence, sort alarms by group, configure your relay outputs and more. There is never any reason to pull out the front accessible input cards as changes can be made via software.

### Reliability

Every Model 90A annunciator is equipped with low power, long life LEDs. The brightness exceeds standard incandescent bulbs and they last years longer. If a LED needs replacement, our automatic detector provides notice so critical alarms are not missed. A built-in ground fault detector is available for indicating ground faults in your field wiring.

## FEATURES AND BENEFITS

- Serial and Ethernet Communications: Modbus, DNP, OPC Protocols
- Compact Size
- Timed Stamped Alarms (SER)
- Software Configurable
- LED Illumination (Standard)
- Laser Printed Legends
- Internal Self Diagnostics

## SPECIFICATIONS

### INPUT

#### Field Contacts

- Normally Open (N.O.) or Normally Closed (N.C.) input selection through software or hardware
- Wetted (voltage supplied) or dry (voltage free) contacts

#### Field Contact Voltage

- 12, 24, 48, 125 VDC, 120 VAC jumper selectable (.0018mA per input)

#### Input Isolation

- Each input is optically isolated

#### Input Response

- 50 milliseconds (standard)
- 1 millisecond fast response (opt)
- 50 milliseconds to 250 seconds software adjustable

### DISPLAY

#### LED

- White LED, minimum 2 per window

#### Window Sizes (h x w)

- Quad: 1.5 x 1.5 inch (38 x 38 mm)
- Third: 1.0 x 3.0 inch (25 x 76 mm)
- Half: 1.5 x 3.0 inch (38 x 76 mm)
- Full: 3.0 x 3.0 inch (76 x 76 mm)

#### Window Color

- White, red, yellow, amber, green, blue

#### Legends

- Laser printed on transparency film or engraved windows

### ALARM SEQUENCE

#### Sequence Selections

- LN, AO, AONL, AF, AFNL, FR, AM, FRM, AS, ASFR, ASFRM, TFS, TFSFRM, TFSM, ARR, FRR, VS, VSRR, MC
- Software configurable
  - Dual color sequences
  - Customized flash rates
  - Up to 4 first out groups

### CONTROLS

- Integral test, acknowledge, silence and reset with LED status lights
- External push button inputs
- Configurable switch inputs (inhibit LEDs, horns, relays)

### OUTPUTS

#### Auxiliary Relay Option

- Individual or dual relay per point
- Follows field contact or alarm sequence
- Software configurable
- Energized/de-energized operation
- Form A or form B (N.O. or N.C.)
- Form C (SPDT)

#### Common Relays

- 2 relays included for: critical and non-critical horn; ringback audible
- 2 relays available for: critical and non-critical reflash, common alarm; watchdog, power fail, ground fault
- Software configurable
- Energized or de-energized operation
- Form A or form B (N.O. or N.C.)

#### Relay Ratings

- 24 VDC @ 3.0 amps
- 110 VDC @ 0.1 amps
- 120 VAC @ 3.0 amps

#### Audible

- Internal 80db @ 30cm audible device
- external horns available

### COMMUNICATION

#### Serial Modbus

- Master or slave
- Transmit or receive alarms
- RS-232/485 or Ethernet
- Pushbutton controls

#### DNP 3.0

- Slave mode
- Transmit alarms
- RS-232/485 or Ethernet
- Pushbutton controls

#### OPC Server Software

- Ver. 2.0 OPC DA

#### Serial ASCII

- RS-232/485 or Ethernet
- For local terminal/printer

### TIME STAMPED ALARMS

- 1 or 4 msec time stamp resolution
- IRIG-B time sync input or internal clock
- Point #, alarm status, time and date
- Modbus, DNP, ASCII outputs
- 500 event storage

### CONNECTIONS

#### Input/Output Terminals

- Fixed barrier terminal block, 12 GA (2.5mm) maximum, ring, spade or bare wire termination.

#### Communication Ports

- Serial: 9 pin female D connector
- Ethernet: RJ45 connector
- IRIG-B: BNC connector

### POWER REQUIREMENTS

#### Internal or External Power Supplies

- 230 VAC (176-264 VAC 50 Hz)
- 120 VAC (88-132 VAC 60 Hz)
- 125 VDC (100-250 VDC)
- 48 VDC (38-58 VDC)
- 24 VDC (19-29 VDC)

Max. 1.7 watts/input @ power input

### MECHANICAL

#### Mounting

- Semi-flush panel mounting
- 19 inch rack mounting
- Wall (surface) mounting
- NEMA enclosures

#### Weight

- 1.2 lbs per cell (0.34 kg per cell)

### ENVIRONMENT

#### Operating Temperature Range:

- -4 to 122°F (-20 to 50°C)

#### Humidity:

- 20-95% RH

#### Surge Withstand:

- ANSI C37.90.1 (oscillatory)

#### Fast Transient:

- IEC-61000-4-4

#### Surge Immunity:

- IEC-61000-4-5

#### EMI/RFI/ESD:

- IEC-61000-4-3, 4-6, 6-3, 4-8, 4-2

#### Isolation:

- 1950 VDC or 1400 VAC input to output, logic, case

### CERTIFICATIONS

UL, ULC, CE

FM Class 1, Div 2, FMC

Semi-flush Mounting Details inches (mm)		
Cells H or W	Overall H or W	Panel Cut-Out H or W
1	5.0 (127)	4.06 (103)
2	8.47 (215)	7.53 (191)
3	11.94 (303)	11.00 (279)
4	15.40 (391)	14.47 (368)
5	18.88 (479)	17.94 (456)
6	22.34 (568)	21.41 (544)
7	25.81 (656)	24.88 (632)
8	29.28 (744)	28.34 (720)
9	32.75 (832)	31.81 (808)
10	36.22 (920)	35.29 (896)
11	39.69 (1008)	38.75 (984)
12	43.16 (1096)	42.22 (1072)
13	46.63 (1184)	45.69 (1160)
Depth behind panel: 6.75", 8" with rear		

Example: 2 H x 3 W has a cut-out height of 7.53 (191) and a cut-out width of 11.0 (279)

