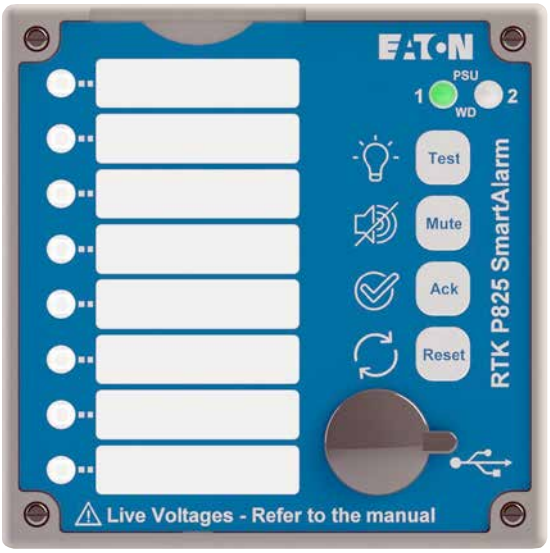
RTK P825 SmartAlarm

Fully featured compact annunciator

- DIN Size Module with 8, 16 and 24 channel versions
- Internally generated 24VDC signal supply, with options for powered inputs 24VDC, 125VAC/DC, 48VDC or 250VAC/DC
- Pluggable LED's in five colours, Red, Yellow, White, Blue and Green
- Remote Pushbuttons inputs with mappable functions
- Each channel is fully software configurable through a front panel USB port using the intuitive set-up utility
- Integrated power supply, providing direct connection to 85-264VAC or 88-300VDC.
- Optional wide range DC supply 19-72VDC
- Optional internal redundant power supply
- Full ISA 18.1 Sequences built in, programmable via front panel USB connection
- Optional IP54 protection
- No links required for relay configuration



The RTK P825 SmartAlarm brings together many years of development in Alarm Annunciator technology and builds on the functionality of the field proven RTK UC625.

The RTK P825 SmartAlarm is designed as a complete alarm system with integral, audible, relays and pushbuttons for the most cost effective solution for monitoring critical process alarms. Incorporating ISA 18-1 1979 (R1992) alarm sequences which are programmable via the front panel mounted USB connector. The unit provides dual horn relays, LED display, optional signal duplicating relays and / or dual redundant PSU's, making the RTK P825 SmartAlarm an ideal choice where full functionality is required and space is a premium.

As a world leading supplier of process alarm equipment, Eaton Electric can provide a solution for all safe and hazardous area industrial applications. Used for monitoring critical alarms, our range of Alarm Annunciators are manufactured to meet customer requirements, with a range of options that can be incorporated as required.

Powering Business Worldwide

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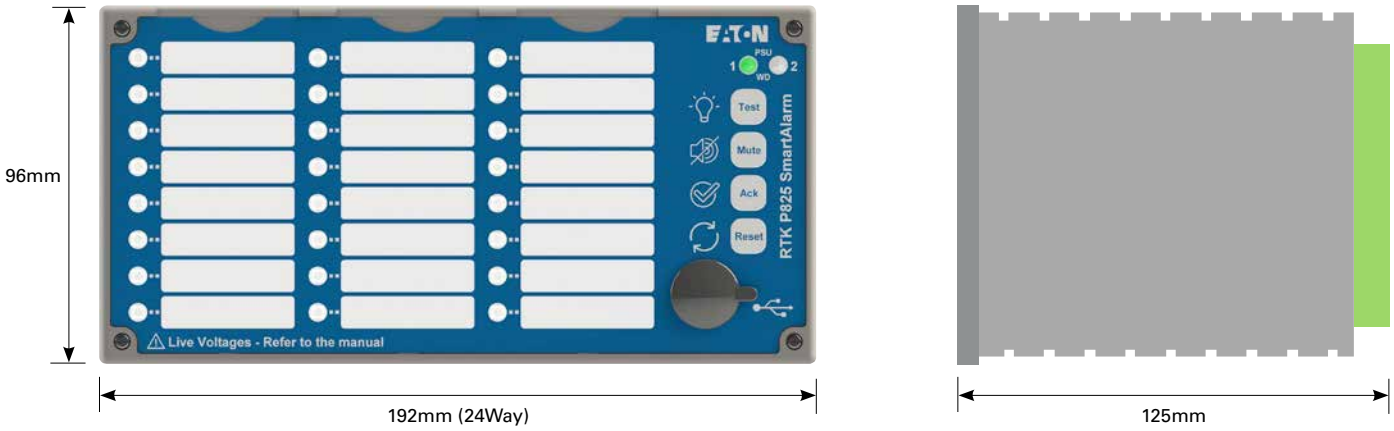


FEATURES & BENEFITS

Modular Construction

The modular design of the SmartAlarm allows units to be assembled in three standard sizes 8 , 16, 24 channels, all housed in DIN standard enclosures.

High intensity LEDs are utilised for the SmartAlarm and the following colour options are available ; White, Yellow, Green, Red and Blue. LEDs are designed to be easily interchangeable for on-site maintenance and commissioning.

Fully Software Configurable

Each Annunciator has a programming port located behind an IP rated bung on the front panel below the . This is a standard USB mini connection to connect directly to your laptop or PC using the cable provided with the unit, although any standard USB cable will suffice. Each individual channel can be configured to operate exactly as required with the user selecting from a range of functions, features and alarm sequences.

Alarm Sequences

All of the standard sequences are available as defined in the ISA publication "Alarm Sequences and Specifications S18-1 1979 (R1992)". The programmed information is safely stored in EEPROM without the need for any battery backup and can also be archived on the PC.

Advanced Diagnostics

The SmartAlarm is designed with comprehensive diagnostics to monitor all aspects of the systems operation. Any fault found will be indicated in the diagnostic windows of the configurator when a PC is connected to the unit. When the unit is operating normally without any connection to a PC, errors are indicated to the operator by flashing front panel LED's.

Communications

As an option a Modbus RTU RS 485 isolated serial port can be provided on the rear of the unit.

INPUTS AND OUTPUTS

Inputs

All inputs are opto-coupled and comply to the stringent requirements of the European Directive in Electromagnetic Compatibility and the Low Voltage Directive. This greatly reduces the possibility of false alarms. The standard unit provides an isolated +24VDC to power the individual signal inputs. Field contact voltage options of 24VDC/125VAC-DC or 48VDC/250VAC-DC are available.

Integral Redundant Power Supplies

In order to maintain the highest level of reliability in safety critical applications, all models can be equipped with optional integrated dual power supplies, whereas the standard unit is equipped with a single fully isolated universal input supply. Each supply is capable of accepting either 85-264VAC or 88-300VDC, or 19-72VDC specified at the time of order.

Field Contact Voltage Monitoring

The field contact voltage supply input is fuse protected and monitored for failure. If this supply failsf or any reason an output relay is tripped to warn operators that alarm information may be lost.

Sleep Mode

All units are equipped with 'Sleep' mode which is typically used in substation applications where the visual and audible outputs are disabled during unmanned periods to reduce drain on the station batteries. Whilst in 'Sleep' mode, the alarm logic will continue to react in the normal way including the operation of the group alarm relays and individual repeat and common alarm relays – ONLY the drive signals to the LEDs and the audibles are disabled until the unit is placed back into the 'Run' mode.

FEATURES & BENEFITS

Film Legend Engraving

Because the exact text is often not known at the time of order, the SmartAlarm has been developed to use acetate film , or Paper legends which allows users to easily generate their own legends using a computer and suitable printer.

Connections

All connections are made on the rear of the unit using two-part quick disconnect rising clamp terminals accepting up to 2.5mm^2 cable. All terminals are lockable using the screws at each end of the terminal making it impossible for terminals to fall out or be removed inadvertently.

Common Outputs

As standard, each unit is fitted with five common relays: Critical Audible Relay Non-Critical Audible Relay, Common group relay "A" Common group relay "B" and a Watchdog Relay.
The common alarm relays are equipped with a reflash feature to indicate the occurrence of a new alarm within the unit. The functrion of each common relay can be modified as required.

Watchdog LED's

A watchdog function is available on the front panel of the unit, indicating if one of the following issues occur:-

- PSU 1 / PSU2 Failure
- FCV Failure (Field contact voltage)
- Systems Failure
- Comm's Failure

Pushbutton Controls

Four Integral tactile pushbuttons are provided for Functional Test, Acknowledge, Mute, and Reset which control the operation of the standard alarms within the instrument. These internal buttons can be mapped to other pushbutton functions via the supplied configuration soft-ware. Additionally external pushbuttons can be connected via mappable terminals on the rear of the unit if required.

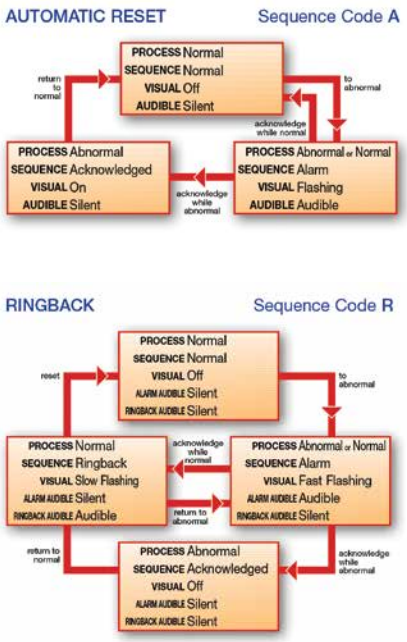
IP Rating

Flush panel units are IP40 rated, with an Optional IP54 kit.

Tropicalisation

In harsh environments where moisture or chemicals may be present in the atmosphere, there is an option to tropicalise the unit with a conformal coating.

SEQUENCE TABLES



TECHNICAL SPECIFICATION

INPUTS

Alarm Initiation
125-250V inputs are all bipolar so can accept AC or DC voltages. 24/48V inputs are DC only.

Alarm Contacts
The standard unit provides +24VDC to power the Customers volt-free contacts, optional versions are available for use with Customer powered 24VDC/125VAC/DC or 48VDC/250VAC/DC field contact supplies. Each input can be software configured to operate from either a Normally Open or Normally Closed field contact as required.

Isolation
All customer inputs are optically coupled as standard.

Field Contact Voltage
This voltage is distributed through the annunciator to field contacts. As standard this is selectable between 24 and 125V. As an option a different version, which is selectable between 48 and 250V, is available. 125-250V inputs are all bipolar so can accept AC or DC voltages. 24/48V inputs are DC only

Response time
Each Channel is software configurable on each channel from 1ms to 65s. As a default each input is set to 10ms delay.

First-up Discrimination
Better than 10ms

Pushbuttons
Four internal pushbuttons are available, "Test, "Mute" Ack" "Reset" plus five customer terminals for use with external pushbuttons which are mappable as required.

OUTPUTS

Common Relays
All systems are supplied with five relays as standard, providing 1 x watchdog, 2 x horn and 2 common alarm outputs for customer use.

Relay ratings:-
2 x Horn relays
Contact rating
2A @ 30VDC, 2A @ 125VAC
150mA @ 115VDC
Selectable as Energized or De-Energised

2 x Group relays
Contact rating
1A @ 24VDC, 0.2A @ 110VDC
Selectable as N/O, N/C

1 x Watchdog Relay
Contact rating
1 A @ 30VDC, 0.2A @ 110VDC
Selectable as Energised or De-Energised

Repeat relays
The optional Individual channel repeat relays are low power configurable to follow either the input, logic or display.
contact rating
0.2A @ 30VDC, 0.2 @ 110VDC
Selectable as N/O, N/C

Audible
A 2.4kHz piezoelectric buzzer at 90dB 30cm. Integral audible is included om all models

Communications
An isolated RS485 port providing Modbus RTU protocol is available as an option.

DISPLAY

Pluggable high Intensity LED's

LED Colours
Red, Yellow, White, Green and Blue
Each LED is plugged into a base to allow easy serviceability in case of LED failure.

Legends
Laser printed onto standard acetate sheet, or paper using templates provided by Eaton Electric.

GENERAL

Supply Voltage
(Primary) Integral Power Supply:

Universal AC or DC supply
85-264VAC or 88-300VDC

Or optionally

24VDC Nominal (19-72VDC)

(Auxiliary) Integral Power Supply:

(Optional) Optionally Not fitted or

Universal AC or DC supply
85-264VAC or 88-300VDC

Or optionally

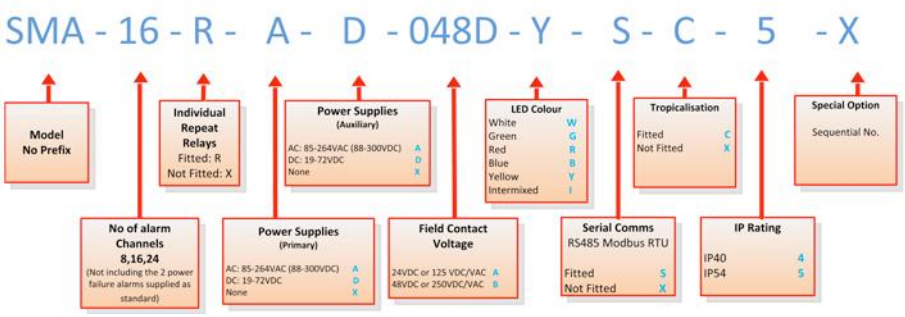
24VDC Nominal (19-72VDC)

Or Optionally None

Dimensions
8 way unit:
96 h x 96 w x 125 d mm (DIN)
16 way unit:
96 h x 144 w x 125 d mm (DIN)
24 way unit:
96 h x 192 w x 125 d mm (DIN)

No. of WAYS	Overall IN mm		
	HEIGHT	WIDTH	DEPTH
8	96	96	125
16	96	144	125
24	96	192	125
No. of WAYS	**Cut-out IN mm**		
8	91 + 0.5	91 + 0.5	-
16	91 + 0.5	139 + 0.5	-
24	91 + 0.5	187 + 0.5	-

Order Code



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