ADELCU-2

Alarmline II Digital EN Dual zone digital location control unit

General

The digital location control unit is a dual zone module for monitoring up to two zones of AlarmLine II Digital EN Linear Heat Detection Cable. If an overheat or fire situation triggers either zone of the digital cable the unit automatically calculates and displays the distance along the cable, in feet and metres, to the alarm point.

The two zones can operate independently of each other, or in interlock mode. A separate alarm and normally conducting fault output are provided for each zone. The unit is intended to be installed between the AlarmLine II digital EN linear heat detection cable and a conventional or addressable fire alarm control panel. It has power, fault and alarm indicators, as well as free outputs for fault and alarm, corresponding to each zone. It may also be connected to a industrial process control system using the two wire RS-485 Modbus RTU output.



Modes of operation

1. Independent – This is when the unit is used as a two zone system. When a fault or overheat condition occurs on an LHD zone, the corresponding fault or alarm output respectively is triggered. The two zones operate independently and both sets of outputs should be connected to a fire alarm control panel.

2. Interlock – this mode is for applications which require a fail-safe guarantee that an alarm is only triggered when an overheat condition has been detected. This mode may also be known as coincidence detection. In this case, the same rated temperature LHD cable should be attached to both zones of the unit. The alarm output is only activated when both LHD cables trigger an alarm due to an overheat condition. If one LHD cable zone input registers an alarm but the second does not, the alarm output will not be activated.

Modbus communication

The unit includes a two wire RS-485 Modbus output which can be enabled to output the status of each zone of the digital location control unit, via Modbus RTU/ASCII protocol. In case of an alarm, the location (in distance along the cable) is also communicated via Modbus.

Interconnecting cable

The unit supports the use of a interconnecting cable (leader cable) in between the control unit and the linear heat detection cable. The interconnecting cable is used in applications where the control unit is not located in the detection zone. The interconnecting cable is then used to connect the control unit in one location, with the linear heat detection cable in the protected area. The interconnecting cable is available in 100 m lengths, under the product code AAI-0100.

Details

- Dual Zone - used as Independent or Interlock
- Designed for AlarmLine II Digital EN linear heat cable
- Easy to install
- IP65
- RoHS compliant, CE & EN54-28:2016 certified
- Modbus support
- 1 km of cable supported per zone
- Wide supply voltage
- Low current consumption

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Technical specifications

General

Status indication	5 x LEDs (1 x power-green, 2 x alarm-red, 2 x fault-orange)
User interface	2-line, 16-character backlit display
Connectivity	Modbus (two-wire RS-485 RTU)
Internal buzzer	2.4 kHz pulsed signal

Electrical

Power supply type	VDC
Operating voltage	12 to 36 VDC
Current consumption	Standby <7mA at 24 VDC Alarm <23 mA at 24 VDC
Terminals	Cable size: 0.08 to 4 mm² (28 to 11 AWG)

Detection

Zone length	1 to 1000 m (3.28 to 3 280 ft)
Number of zone inputs	2
End-of-line resistor	3.6 kΩ
Maximum zone voltage	5 V

Output

Output quantity	2 x Alarm (voltage free relay contacts) 2 x Fault (opto-isolated phototransistor)

Physical

Physical dimensions	120 x 180 x 60.5 mm (W x H x D) 4.72 x 7.1 x 2.38 in. (W x H x D)
Colour	Grey
Mounting type	Surface mount
Cable entries	2 x M16 and 4 x M12
Material (body)	Polycarbonate

Environmental

Operating temperature	-20 to +50°C -4 to +122°F
Environment	Indoor
IP rating	IP65

Regulatory

Certification	CE, EN54-28

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