ADEVA®

Advanced Intelligent Intrasically Safe Photoelectric Smoke Detector 22051EISE

Overview

- Advanced intelligent detection functionality
- Fully digital adressing technology
- Includes Advanced ADEVA protocol
- Photoelectric, integrated low-flow technology
- Must be used in conjunction with IST200 Translator Module and Y72221 Galvanic Isolator
- Compatible with the existing standard intelligent sensor base
- BASEEFA Approved to EEx ia IIC T5/T4 for use in Zone 0, 1 & 2 env ronments
- Rotary decade address switches
- Pure white colour to compliments modern buildings
- New base design to compliment the detector
- Tested and approved to EN54-7:2000+A1:2002+A2:2006

CE
0832-CPD-199

LPCB
UKAS
LPS 199: Issue No: 12
Cert. 199ab/01

Ex
Baseefa08 ATEX0278X

Description

The 22051EISE analogue addressable photoelectric sensor is a plug in intrinsically safe smoke sensor combining an optical sensing chamber with analogue addressable communications. As an intrinsically safe sensor, the 22051EISE has been designed specifically to provide fire protection for most hazardous environments, and has therefore been engineered so that it cannot become a source of ignition in areas where potentially explosive atmospheres are likely to arise.

The 22051EISE sensors are approved by BASEEFA to EEx ia IIC T5/T4, for use in hazardous environments. The 22051EISE sensor is therefore suitabl for use in all hazardous area up to Zone 0, 1 and 2 areas and with most gases.

The 22051EISE has two integral LED's which provide local visual indication of the sensor status. These LED's provide a dual function. In the event of an alarm, they can be switched ON continuously, and can also be programmed to either blink when polled by the panel or remain off during normal conditions.

The individual loop address of each 22051EISE can be easily set and read, using the rotary decade address switches located on the rear of each sensor. The use of decimal address codes significantly reduces the potential for incorrect address selection.

Each sensor base includes a tamper resistant option which, when activated, prevents the removal of the sensor from it's base without the use of a tool. Full circuit functionality can be easily confirmed on site by use of the sensor test switch. Operation of this magnetic switch will generate an alarm response to the fire alarm control panel, making system testing both convenient and simple.

Architect/Engineer Specifications

IST200 Intellligent Translator Module

Description

The IST200 translator module is intended for use with analogue addressable system and in conjunction with 22051EISE intrinsically safe photoelectric smoke sensor. The IST200 translator module server as an interface between the control panel and up to a maximum of 15 x 2251EISE smoke sensor. The IST200 must also be used in conjunction with a Y72221 galvanic isolator barrier (see below). To ensure correct operation, the IST200 must only be connected to a listed compatible Control Panel.

The IST200 translator module can be easily mounted within ADEVA's existing SMB500 surface
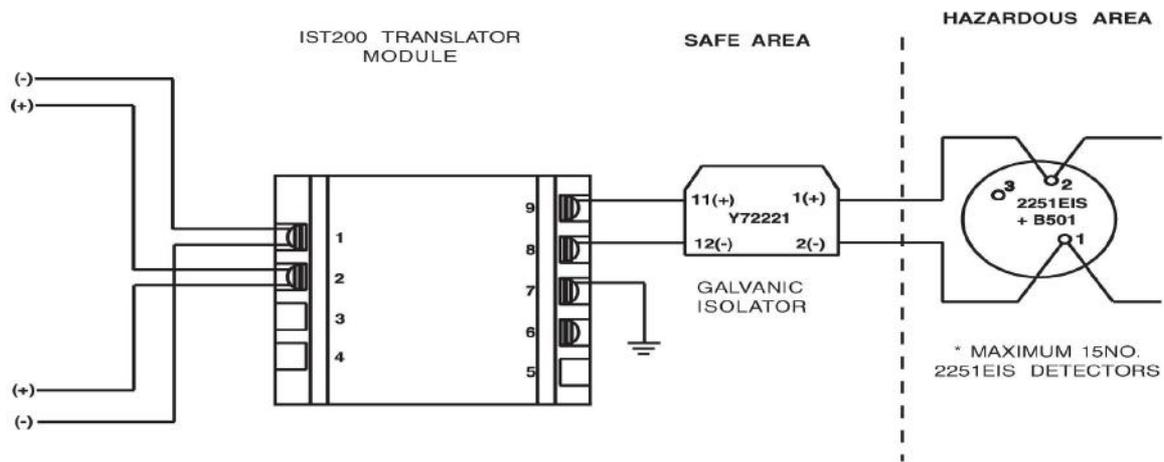
Wiring of IST200 Translator Module with Y72221 Galvanic Isolator and 2251EIS Intrinsically Safe Smoke Detector Mounted in a B501 Detector Base

Y72221 Galcanic Isolator

Description

The Y72221 Galvanic Isolator is a single channel isolated repeater. It is suitable for use as an intrinsically safe isolator between an IST200 translator module and up to a maximum of 15 x 22051EISE intrinsicilly safe photoelectric smoke sensors. The Y2221 is designed to transfer a DC current from a safe area to the hazardous are load, from a 24VDC nominal voltage. An AC signal ranging from 0.6 to 24V will then be transferd, allowing communication to the 22051EISE sensors in the hazardous area.

We would recommed the use of the Y72221 with all installations of 22051EISE sensors. We do not recommend the use of zener beries, as they need to be tied to a high integrity earth, which can lead to earth fault indications on some Fire Control Panels. Please refer to the Fire Control Panel manufacturer for compatibility information. The Y72221 is certified intrinsically safe to EEx ia IIC, (Baseefa00ATEX087X0).

The Y72221 is suitable for DIN rail mounting and can therefore be mounted within any electrical box with suitable DIN rail
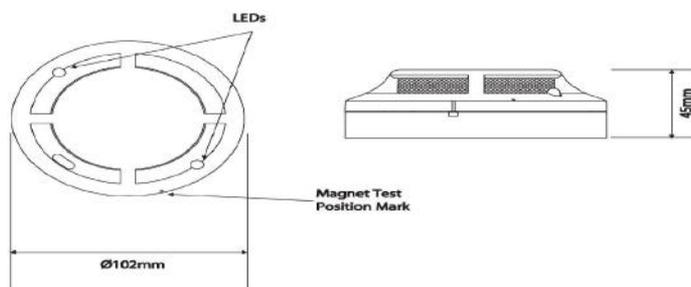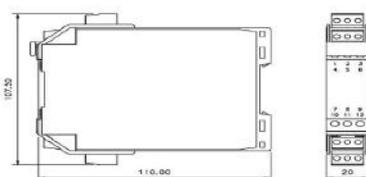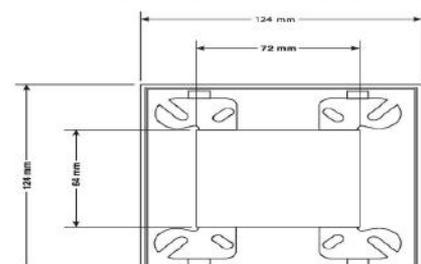
Electrical Specifications - 22051EISE

Operating Voltage	15 to 24VDC
Maximum Average Standby	330μA (with LED blink enabled)
Maximum Alarm Current (LED	4.2 mA at 24VDC

Environmental Specifications

Operating Temperature	-10ºC to +60ºC
Humidity	5% to 95% Relative Humidity (non-condensing)
Instrinsically Safe Rat-	EEx ia IIC T5

Mechanical Information

Height	43mm installed in B501 base
Diameter	102mm installed in B501 base
Weight	110g
Max Wire Gauge for Terminals	2.5mm^2
Colour	Pentone Warm Grey 1C
Metarial	Bayblend FR110

Wiring

The capacitance and inductance or inductance/resistance (L/R) ratio of the cable connected to the hazardous area between the 22051EISE base's (B501AP) power terminals (1 and 2 must not exceed the following values)

Group	Capacitance (μF)	Inductance (mH)	L/R Ratio (μH/ohm)
IIC			
IIB	0.65	12.6	165
IIA	2.15	33.6	440

Electrical Specifications - IST200

Input Voltage Range	15 to 32VDC
Output Range	20 to 24VDC
Input Supply Current at 15V	21mA maximum*
Input Supply Current at 24V	14mA maximum*
Max Wire Gauge for Terminals	2.5mm^2

* with minumum barrier resistance, recommended quantity of 22051EISE detectors, and normal operating conditions

Environmental Specifications

Operating Temperature Range	-10ºC to +60ºC
Humidity	5% to 95% Relative Humidity (non-condensing)

Mechanical Information

Height	70mm
Widght	70mm
Depth	32mm
Weight	142g
Max Wire Gauge for Terminals	2.5mm^2

Product Range

Other Devices in range	FCO731 / FCOI731	FCHR751 / FCHRI751	2251CTLE	2251EIS
	FCOT721 / FCOTI721	FCHF741 / FCHFI741	7251	6500
	FCOTI781 / FCOII781	FCHH761 / FCHHI761	FTX-P1	