

## INTRINSICALLY SAFE FIRE DEVICES

### Intelligent Photoelectric Smoke Detector 22051EISE

The 22051EISE detector is used in the FX fire detection system together with the IST200 protocol translator and the Y72221 galvanic isolator.

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, for use in hazardous environments. The 22051EISE sensor is therefore suitable for use in all hazardous areas up to Zone 0 areas and with most gases, excluding hydrogen and acetylene.

The IST200 translator module is intended for use with analogue addressable systems and in conjunction with 22051EISE intrinsically safe photoelectric smoke sensors. The IST200 translator module serves as an interface between the control panel and up to a maximum of 15 x 22051EISE smoke sensors. The IST200 must also be used in conjunction with a Y72221 galvanic isolator barrier.

The IST200 translator module can be easily mounted within a surface mount box (BOX-500E). The IST200 must be located within a safe environment.

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 intrinsically safe photo-electric smoke sensors.

The Y72221 is certified intrinsically safe to EEx ia IIC, (Baseefa00ATEX087X).

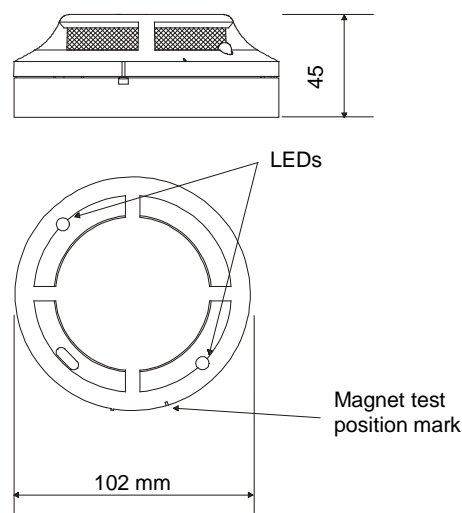
The Y72221 is suitable for DIN rail mounting and can therefore be mounted within any electrical box with suitable DIN rail.



Analogue addressable photoelectric sensor 22051EISE

### Smoke detector ESMI 22051EISE

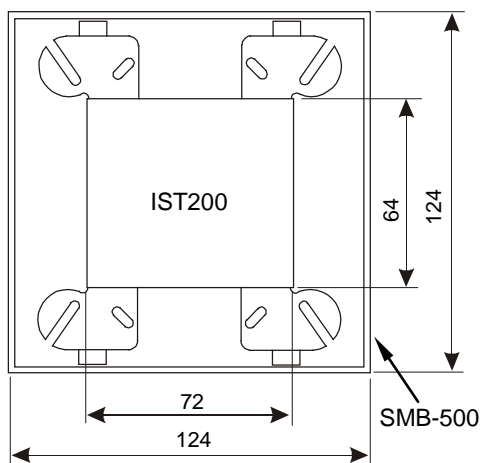
#### Mechanical dimensions



#### Technical data

Operating voltage	17 - 24 VDC
Current consumption	
Standby current (with LED blink enabled)	Max. average 330 $\mu$ A
Alarm current (LED on)	Max. average 4,2 mA (24 VDC)
Operating temperature	-10 $^{\circ}$ C - +60 $^{\circ}$ C
Humidity	5 - 95 % (non condensing)
Dimensions	
Height mm (in base)	45 (B501), 48 (B501AP)
diameter mm	102
Weight	110 g
Color	Pantone Warm Grey 1 C
Material	Bayblend FR110
Approved	EEx ia IIC T5 (BASEEFA)
Product code	06710248

**Protocol translator IST200**



**Technical data**

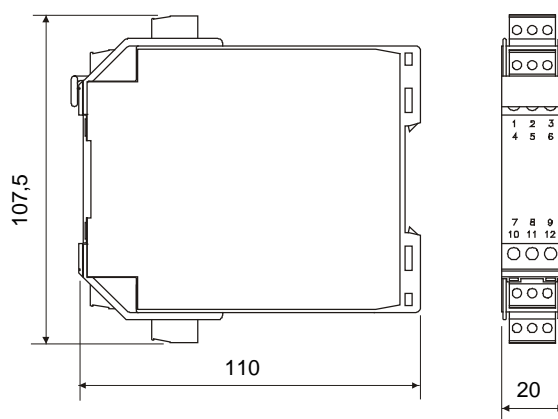
Input voltage (addr. loop)	15 - 32 VDC
Output voltage (Ex loop)	20 - 24 VDC
Current consumption	Max. 21 mA (15 VDC) Max. 14 mA (24 VDC)
Operating temperature	0°C - +60°C
Humidity	5 - 95 % (non condensing)
Dimensions (W x H x D)	70 x 70 x 32 mm
Weight	142 g
Product code	06710246

**Installation box SMB-500**

**Technical data**

Dimensions (W x H x D)	124 x 124 x 53 mm
IP Rating	IP20
Product code	06715490

**Galvanic isolator Y72221**



**Technical data**

Input voltage	20 - 24 VDC
Output voltage	0,6 - 24 VDC
Current	1 - 20 mA
Short circuit current	Max. 65 mA
Maximum number of detectors	15 pcs ESMI 22051EISE detector
Dimensions (W x H x D)	20 x 107,5 x 110 mm
Weight	100 g
Color	Green
Operating temperature	0 °C ... +60° C
Humidity	5 ... 93 % (non condensing)
Product code	06710247

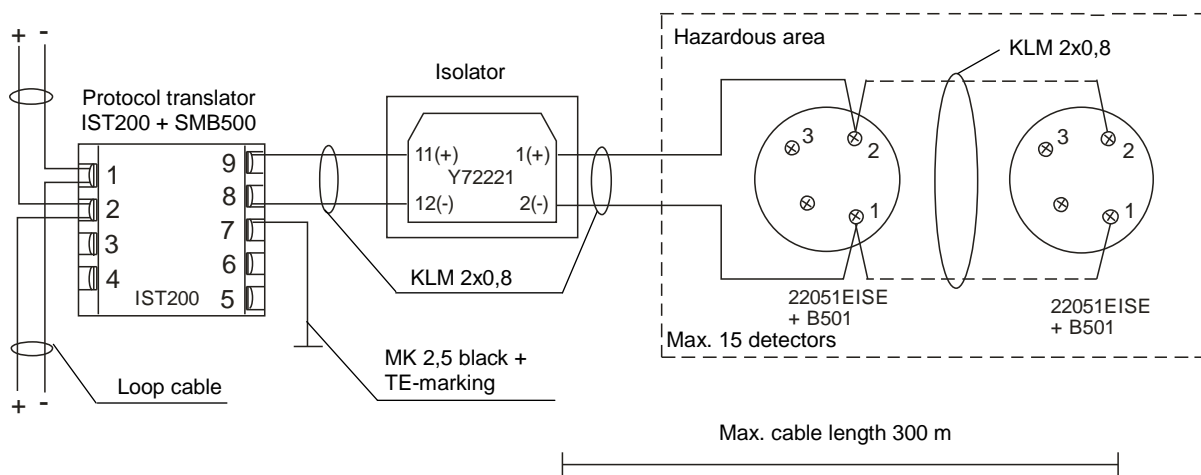
**Wiring**

The capacitance and inductance or inductance/resistance (L/R) ratio of the cable connected to the hazardous area between the 22051EISE base's (B501) power terminals (1 and 2) must not exceed the following values:

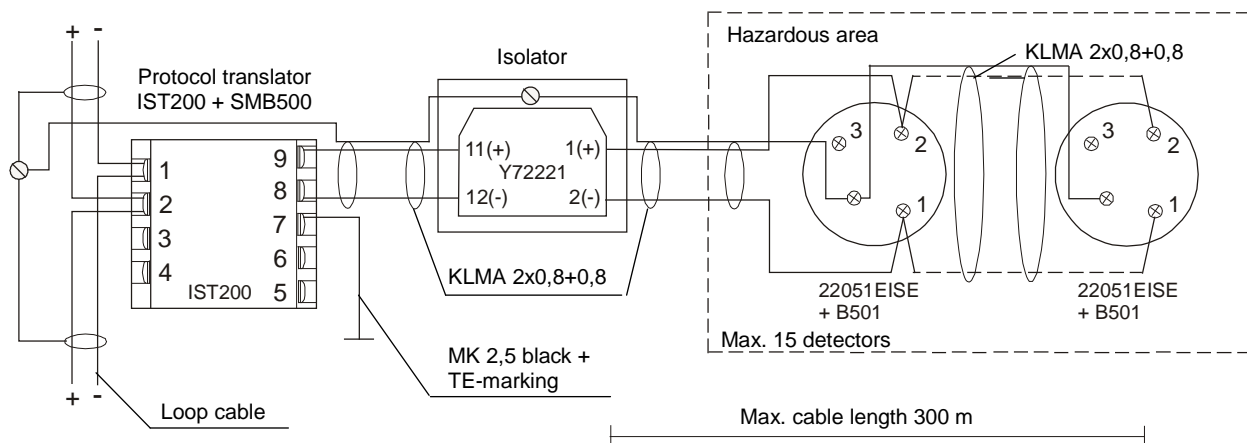
Group	Capacitance (µF)	Inductance (mH)	L/R Ratio (µH/ohm)
IIC	0.083	4.2	55
IIB	0.65	12.6	210
IIA	2.15	33.6	444

Maximum number of 22051EISE detectors connected to one IST200 = 15. Maximum cable length of the IS circuit = 300 m. This assumes a cable capacitance no greater than 260pF/m and a maximum wiring resistance of 40 ohms from the barrier output to the end of the IS loop.

**Non shielded cable**



**Shielded cable**



**Note!** Hazardous area loop is a branch of the addressable loop.  
Remote indicator can not be connected to 22051EISE detectors.