

# Devices for Hazardous Areas for the Apollo Loop



- Loop technology with Apollo protocol
- Optical smoke detector
- Thermal detector
- Safety barrier with galvanic isolation
- Protocol interface for communication with the fire detection control panel
- ATEX certified



## IS Optical Smoke Detector 55000-640

The addressable intrinsically safe optical smoke detector 55000-640 (fig. A) uses the scattered light principle and was developed for the detection of smoke particles in hazardous areas. The smoke detector must always be connected via a safety barrier, which has been approved for this detector, and a protocol interface. Furthermore, the relevant country specific regulations always have to be observed.

The proven loop technology with Apollo protocol establishes a permanent communication between the fire detection control panel and the detector. That ensures a periodical function testing of the detector. In the control panel all types of fires are detected by continuously comparing fire patterns. Intelligent evaluation algorithms use the current condi-

tion of the sensing chamber to predict the likely time of the next maintenance. Thus the alarm threshold is automatically adjusted within the permissible range, depending on the contamination. With that, the constant response sensitivity of the detector is ensured for a long time.

The two LEDs with 360° visibility indicate the activated condition of the detector. The detector address is selected by means of a code card in the detector base. Therefore the detector can be changed without additional tools.

The detector is inserted into the IS Detector Base 45681-215 (not illustrated) and it can be protected against theft.

## Specifications

Ignition protection	intrinsically safe
Ex classification	Ex II 1 G Ex ia IIC T5 Ga (T4 Ga)
Operating voltage	Supply through loop voltage
Current consumption	typ. 340µA (quiescent)
Ambient temperature	-20°C to +40°C (class T5, no icing) -20°C to +60°C (class T4, no icing)
Relative humidity	0 – 95% (no condensation)
Dimensions Ø × H	100 × 42 (mm)
Colour	white
Weight	100g

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2531-CPR-CSP10929  
2531-CPR-CSP10920



## IS Thermal Detector 55000-440

The addressable intrinsically safe thermal detector 55000-440 (fig. B) uses the heat principle and was developed for the fire detection in hazardous areas. The heat detector must always be connected via a safety barrier, which has been approved for this detector, and a protocol interface. Furthermore, the relevant country specific regulations always have to be observed.

The detector is assigned to Class A2S and can be used up to a room height of 6m. Depending on the parameter setup in the fire detection control panel, the detector can operate either as maximum heat detector with an alarm temperature of 55°C, or as rate-of-rise heat detector with a maximum temperature of 55°C.

The proven loop technology with Apollo protocol esta-

blishes a permanent communication between the fire detection control panel and the detector. That ensures a periodical function testing of the detector. Fires are safely detected in the control panel by continuously analysing the measured values.

The two LEDs with 360° visibility indicate the activated condition of the detector. The detector address is selected by means of a code card in the detector base. Therefore the detector can be changed without additional tools.

The detector is inserted into the IS Detector Base 45681-215 (not illustrated) and it can be protected against theft.

## Specifications

Ignition protection	intrinsically safe
Ex classification	Ex II 1 G Ex ia IIC T5 Ga (T4 Ga)
Operating voltage	Supply through loop voltage
Current consumption	typ. 300µA (quiescent)
Application temperature	max. +50°C
Ambient temperature	-20°C to +40°C (class T5, no icing) -20°C to +60°C (class T4, no icing)
Relative humidity	0 – 95% (no condensation)
Dimensions Ø x H	100 x 42 (mm)
Colour	white
Weight	100g
Approvals	BAS02ATEX1289 VdS G216018 LPCB 010p/23 2531-CPR-CSP10920
Order number	242036
Order name	Thermal Detector/XP95/Ex 55000-440

## IS Detector Base 45681-215

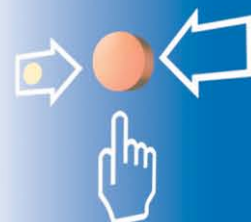
The IS Detector Base 45681-215 is designed to accommodate intrinsically safe intelligent fire detectors Series XP95 for use in loops with Apollo protocol.

Due to its robust multi-wire screw terminals, the detectors can be wired with ease, thus achieving a secure and durable connection.

The detector address is selected by means of a code

card in the detector base. Therefore the detector can be changed without additional tools.

The base is designed for surface mounting in hazardous areas. A mechanical theft protection of the detector can optionally be activated at the detector base.



## Specifications

Ambient temperature	-20°C to +60°C (no condensation or icing)
Relative humidity	10 – 95% (no condensation)
Dimensions Ø x H	100 x 15 (mm)
Colour	white
Weight	50g
Order number	246027
Order name	Detector Base/XP95/Ex 45681-215

## Safety Barrier 29600-098

The Safety Barrier 29600-098 (fig. C) is used for intrinsically safe electric circuits. The built-in zener barrier and the safe galvanic isolation allow the connection of fire detectors in hazardous areas. Due to the galvanic isolation, the earth leakage monitoring can remain activated in the fire detection control panel.

## Specifications

Ignition protection	intrinsically safe
Ex classification	Ex II (1) G D [Ex ia] IIC
Operating voltage	Supply through loop voltage
Ambient temperature	-10°C to +60°C
Dimensions W x H x D	20 x 107.5 x 110 (mm)
Weight	100g
Approval	BAS00ATEX7087
Order number	228004
Order name	Safety Barrier/XP95 29600-098

## Protocol Interface 55000-855

The Protocol Interface 55000-855 (fig. D) serves for the design of an intrinsically safe electric circuit in loop technology. It allows the bi-directional data traffic between fire detection control panel and detectors in hazardous areas, via a loop with Apollo protocol. The interface is always used together with the Safety Barrier 29600-098.

## Specifications

Operating voltage	Supply through loop voltage
Current consumption at 24V	1mA
Ambient temperature	-10°C to +60°C
Relative humidity	10 – 95% (no condensation)
Dimensions W x H x D	20 x 107.5 x 110 (mm)
Weight	100g
Order number	228005
Order name	Protocol Interface/XP95 55000-855

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