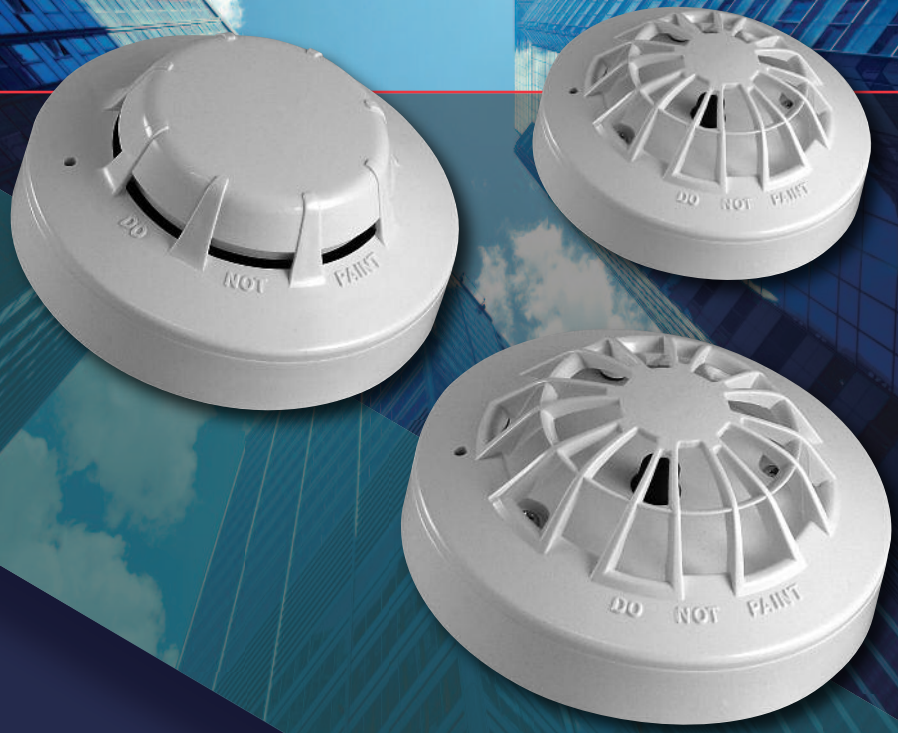
Context Plus



CONTEXT PLUS DIL SWITCH ADDRESSED DETECTORS & BASES

Our DIL switch addressed range of optical and heat (temperature) detectors are manufactured in the UK and approved to the relevant standards by the LPCB. Their addresses are set using a DIL switch located on their underside using a small screwdriver or similar tool (see right).

The address should be written on the label for reference purposes and then sealed. The detectors use the same protocol as our ContextPlus XPERT card detectors (Apollo XP95 protocol, pulses 5-9V) and are fully compatible with our entire range of ContextPlus addressable control equipment.

10 Year WARRANTY

OPTICAL SMOKE DETECTOR DIL SWITCH ADDRESSED

Optical Smoke Detector
Part Number 55000-665IMC

DEVICE RESPONSE

Type: Overheating/thermal combustion
Response: Very good

Type: Smouldering/glowing combustion
Response: Good

Type: Flaming combustion
Response: Good

Type: Flaming with high heat output
Response: Good

Type: Flaming - clean burning
Response: Very poor

OPTICAL SMOKE DETECTOR, DIL STYLE, 55000-665IMC

Our DIL Switch Addressed (DSA) Context Plus optical detector has a moulded self extinguishing white polycarbonate case designed to allow free entry of smoke while minimising the effects of dust contamination. Stainless steel wiper contacts connect the detector to the terminals in the mounting base. Within the case is a printed circuit board which on one side has the light proof labyrinth chamber with integral gauze surrounding the optical measuring system. The other side has the address capture, signal processing and communications electronics. An infra-red light emitting diode (IR LED) within the optical chamber is arranged at an obtuse angle to a photodiode. The photo-diode has an integral daylight-blocking filter. The IR LED emits a burst of collimated light every second. In clear air the photo-diode receives no light directly from the IR LED. When smoke enters the chamber it scatters light from the IR LED onto the photodiode in an amount related to the smoke characteristics and density. The photodiode signal is processed by the optical ASIC and passed to the A/D converter on the communications ASIC ready for transmission when the device is interrogated.

The address of the DSA Context Plus detectors is set using the DIL switch located on the underside of the device. All segments are set to 0 (ON) or 1 (OFF), using a small screwdriver or similar tool. The address should be written on the label and the rear of the detector sealed.

Technical Data

Detector Part No 55000-665IMC

Base Part No: 45681-200

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

Communication protocol: Apollo XP95 pulse 5-9V

Address range: 1 to 126

Detector Type: Products of combustion (smoke) detector

Detection Principles: Photo-electric detection of light scattered in a forward direction by smoke particles

Chamber Configuration: Horizontal optical bench housing an infrared emitter and sensor arranged radially to detect scattered light

Sensor: Silicon PIN photo-diode

Emitter: GaAlAs Infra-red light emitting diode

Sampling Frequency: 1 second

Supply Wiring: Two wire supply, polarity insensitive

Terminal Functions:

Supply positive and negative in and out connections (polarity sensitive). Remote indicator connection to LED driver base

Supply Voltage: 17 to 28 Volts dc

Quiescent Current: 340µA

Duration of Power-up Surge Current: 1 second

Maximum Power-up Time: 4 seconds for communications (measured from application of power and protocol) 10 seconds to exceed 10 counts 35 seconds for stable clean air value

Storage Temp: -30°C to +80°C

Operating Temp: -20°C to +60°C

Alarm Level Analogue Value: 55

Clean Air Analogue Value: 25±7 counts

Alarm Indicator: Red Light Emitting Diode (LED)

Alarm LED Current: 2mA

Remote LED Current: 4mA at 5V (measured across remote load)

Type Code: (210 43) 101 00

Sensitivity: Nominal threshold of 2.4% light grey smoke obscuration per metre

***Humidity* (No condensation or icing):** 0% to 95% relative humidity

Wind Speed: Unaffected by wind

Atmospheric Pressure: unaffected

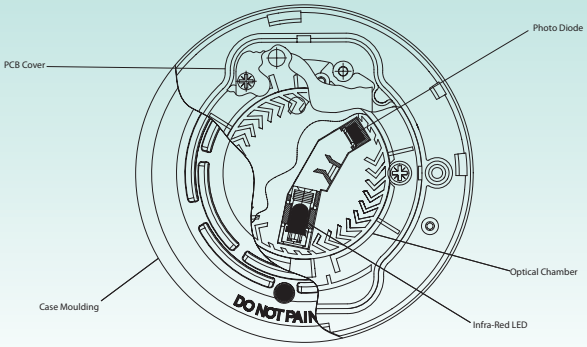
Vibration, Impact & Shock: To EN54–7:2001 CE marked.

IP Rating: 43

Dimensions: (diameter x height) Detector: 100mm x 39mm Detector in Base: 100mm x 47mm

Weights: Detector: 100g Detector in Base: 157g

Materials: Detector Housing: White polycarbonate V-0 rated to UL 94 Terminals: Stainless Steel



Top section view - Optical Smoke Detector

Standard Temperature Detector
Part Number 55000-465IMC

High Temperature Detector
Part Number 55000-475IMC

STANDARD TEMPERATURE DETECTOR, DIL STYLE, 55000-465IMC
HIGH TEMPERATURE DETECTOR, DIL STYLE, 55000-475IMC

Our DIL Switch Addressed (DSA) Context Plus temperature detectors have a low air flow resistance case made of self-extinguishing white polycarbonate. The devices monitor temperature by using a single thermistor network which provides a voltage output proportional to the external air temperature.

The response to heat increases of the standard temperature detector enables the detector to be utilised as an EN54–5:2000 A2S heat detector, which is equivalent to an EN54–5:1984 Grade 2 detector. A high temperature detector, which has similar characteristics at 25°C but reaches a 55 count at 90°C, is available for use in normal ambient temperatures of up to 55°C. This detector meets the requirements for a CS detector in EN54–5:2000.

The address of DSA Context Plus temperature detectors is set using the DIL switch located on the underside of the device. All segments are set to 0 (ON) or 1 (OFF), using a small screwdriver or similar tool. The address should be written on the label and the rear of the detector sealed.

DEVICE RESPONSE

Type: Flaming with high heat output
Response: Moderate/good

Type: Flaming - clean burning
Response: Moderate/good

Type: Flaming combustion
Response: Poor

Type: Overheating/thermal combustion
Response: Very poor

Type: Smouldering/glowing combustion
Response: Very poor

Technical Data

Standard temperature detector
Detector Part No 55000-465IMC

Base Part No 45681-200

Specifications are typical and given at 23°C and 50% relative humidity unless stated.

Communication protocol: Apollo XP95 pulse 5-9V

Address range: 1 to 126

Detector Type: Fixed Temperature Heat

Detector Principle: Temperature sensitive resistance

Sensor: Single NTC Thermistor

Sampling Frequency: Continuous

Supply Wiring: Two wire supply, polarity insensitive

Terminal Functions:

Supply positive and negative in and out connections (polarity sensitive); remote indicator connection to LED driver base

Supply Voltage: 17 to 28 Volts dc

Quiescent Current: 300µA @ 24V

Power-up Surge Current: 1mA

Duration of Power-up Surge Current: 1 second

Maximum Power-up Time: 4 secs

Storage Temp: -30°C to +80°C

Min Continuous Operating Temperature: -0°C

Application Temperature: Class EN54–5:2001 A2S typical 25°C, max 50°C

Static Response Temperature °C: Min 54 Type 58 Max 62

Alarm Level Analogue Value: 55

Alarm Indicator: Red Light Emitting Diode (LED)

Alarm LED Current: 2mA

Type Code: (210 43) 110 00

Sensitivity: 25°C to 90°C: 1°C/Count ; -20°C returns 8 counts

Humidity: (No condensation or icing) 0% to 95% relative humidity

Wind Speed: Unaffected

Atmospheric Pressure: Unaffected

Vibration, Impact & Shock: To EN54-5:2000 marked.

IP Rating: 53

Dimensions: (diameter x height) Detector: 100mm x 39mm Detector in Base: 100mm x 47mm

Weights: Detector: 100g; Detector in Base: 157g

Materials: Detector Housing: White polycarbonate V-0 rated to UL 94; Terminals: Stainless Steel

High Temperature Detector
Detector Part No: 55000-475IMC

Base Part No 45681-200

Specifications are the same as those for the standard temperature detector described above, apart from the following points:

Detector Principle: Temperature sensitive resistance. Linear approximation designed to give 26 counts at 25°C and 55 counts at 90°C

Type Code: (210 43) 110 01

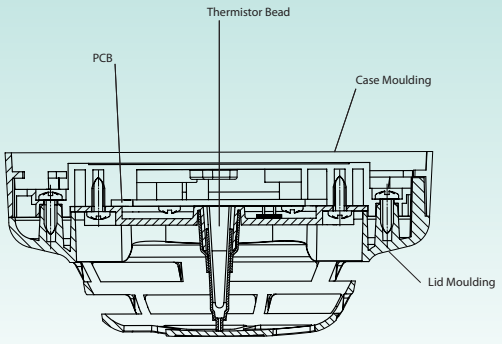
Application Temperature:

Class EN54–5:2001 CS typical 55°C, max 80°C

Static Response Temperature °C: Min 84 Type 90 Max 96

Sensitivity: 25°C to 90°C:

2·17°C/Count -20°C returns 20 counts



Sectional view - Temperature (Heat) Detector

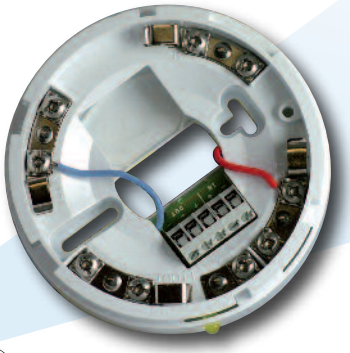
Context Plus Common Base
Part Number 45681-200IMC

CONTEXT PLUS COMMON BASE, 45681-200IMC

Designed to accept DIL switch addressed Optical and Temperature detectors. Polarity must be observed as indicated. A self adhesive label is provided with each base to mark the detector address. This base will not support remote LED indication.

CONTEXT PLUS NEGATIVE SWITCHING ISOLATING BASE, 45681-505IMC

Designed to sense and isolate short-circuits on Context Plus loops, the Context Plus Negative Switching Isolating base can be used in place of standard bases. Under normal operating conditions the isolating circuit provides a low resistance of 0.2 ohm in either direction. If the loop voltage falls to 14±0.4V the isolator will switch from the closed state to the open state in order to isolate the loop 'in' and 'out' lines. The isolated section is tested every four seconds and is automatically re- connected when the load resistance is 175 or greater. Up to 20 detectors or the equivalent load may be connected between two isolating circuits. Interfaces and sounders are counted as one detector for every milliampere of switch-on surge current. All wiring terminals will accept solid or stranded cables up to 2.5mm^2. A Yellow LED illuminates if a short-circuit is detected either side of the isolator. Complies with EN54-17 (2005). This base will not support remote LED indication



Context Plus Negative Switching Isolating Base
Part Number 45681-505IMC

Technical Data

Negative switching Isolator Base
Base Part No 45681-505IMC
Min. loop operating voltage in normal conditions: 17V dc
Maximum loop operating voltage: 28V dc
Minimum protocol pulse: 5V
Power-up time: <10ms
Operating current (quiescent): 23uA @ 18V; 35uA @ 24V; 43uA @ 28V
Operating current (isolated): 4mA @ 18V; 5.4mA @ 24V; 6.4mA @ 28V;
Maximum loop current: 1A continuous; 3A short-circuit switching
Maximum load: 20 XP95 detectors or equivalent

Maximum 'on' resistance: 0.2 Ohm
Isolation indication: yellow LED
Isolation voltage (isolator open): 14±0.4V
Reconnection voltage:15.8±0.4V
Reconnection resistance: 75
Isolation time: 50 s
Operating humidity: 0–95%RH non-condensing
Operating temperature: –20 to +60°C
Storage temperature: –30 to +80°C
Design environment: indoor use only

Stand Alone Isolator
Part Number 55000-720

STAND ALONE ISOLATOR, 55000-720; ISOLATOR BASE, 45681-211

Designed to be placed at intervals on the loop to ensure that, in the case of a short-circuit, only the section between the isolators is affected. When the short-circuit is removed, the isolators automatically restore power and data to the isolated section. The equivalent of up to 20 smoke detectors may be installed between isolators. 20mA start up current.

Technical Data

Device Part No: 55000-720
Min. loop operating voltage in normal conditions: 17V DC
Maximum loop operating voltage: 28V DC
Minimum protocol pulse: 5V
Power-up time: <10ms
Quiescent current: 18V = 23µA; 24V = 35µA; 28V = 43µA
Current in isolated state: 18V = 4.0mA; 24V = 5.4mA; 28V = 6.4mA
Max. loop current: 1A continuous; 3A short-circuit switching
Max. load : 20 Context Plus XP95 detectors or equivalent

Maximum 'on' resistance: 0.2Ω
Isolation indication: Yellow LED
Isolation voltage (isolator opens): 14±0.4V
Reconnection voltage: 15.8±0.4V
Reconnection resistance: 175Ω
Isolation time: 50µs
Operating humidity: 0–95%RH non-condensing
Operating temperature: –20 to +60°C
Storage temperature: –30 to +80°C