SERIES 200 *plus*
M200 Series Input / Output Modules

SYSTEM SENSOR®

Product Overview

Features

- M200XE Short Circuit Isolator Module
- M201E Single Output Module
- M210E Single Input Module
- M210E –CZ Conventional Zone Module
- M220E Dual Input Module
- M221E Dual Input – Single Output Module
- Common mechanical platform for box, panel and DIN rail mount versions
- Tri-colour LEDs
- Built-in short circuit isolators
- Decade address switches visible and selectable in two planes
- Wide angle LED visibility
- LPCB Approved
- VdS Approved
- BOSEC Approved:TCC2 – K – 466
- GEA GEI 1 1-082 and CEA GEI 1-084 Approved
- Designed to meet VdS 2489

LPCB		VdS
199r/01	199q/01	G202137
199q/02	199q/03	G202139
199q/04	199q/05	G202140
199q/06		G202141

Description

The new family of input/output modules form part of System Sensor Europe's Series 200 plus family. Single and multi-way models are available within the same mechanical package, reducing both the cost of installation and the mounting space required.

Their unique mechanical design allows each module to be mounted in either a wall box, on a DIN rail or within any type of enclosure. Irrespective of the mounting methods chosen, the address switch is both visible and accessible for selection.

To facilitate the interconnection of DIN rail mounted modules, packs of pre-cut and stripped lengths of wire are available. The part number for these packs of wire is M200-LWP.

Each module has built-in short circuit protection for the communications loop; however, to increase application flexibility, the isolators can be selected/deselected on an individual module basis.

To help technicians in the maintenance and fault-finding process, both the LEDs and the switches can be viewed without having to remove the cover of the surface mounting box. The LEDs, being multi-colour, provide diagnostic information regarding the status of each individual input/output.

For ease of installation, testing and maintenance, the field wiring terminals are of plug-in design.

Architect/Engineer Specifications

M200 Series Input/Output Modules

M210E Single Input Module, M220E Dual Input Module and M221E Dual Input – Single Output Module

The M210E and M220E provide supervision of one or two input circuits respectively from external devices; the M221E also provides an unmonitored single pole volt-free changeover contact for external devices. All modules feature a built-in short circuit isolator. Input channels are capable of both latched and analogue supervision: there are three separate latched states, normal, open circuit and combined alarm/short. The analogue supervision continuously monitors the supervised circuit, returning a signal proportional to the circuit resisitance.

Electrical Specifications

Operating Voltage Range	M210E Maximum Standby Current	510µA at 24VDC, One communication each 5 seconds with LED blink enabled
15 to 30VDC	310µA at 24VDC, no communications	
M220E Maximum Standby Current	600µA at 24VDC, One communication every 5 seconds with LED blink enabled	
340µA at 24VDC, no communications		
M221E Maximum Standby Current	660µA at 24VDC, One communication every 5 seconds with LED blink enabled	M221E Output Rating
340µA at 24VDC, no communications		2A at 30VDC, resistive load.

Environmental Specifications

Operating Temperature Range	Humidity 5 to 95% Relative Humidity (non-condensing)	IP Rating
-20°C to +60°C		IP30 (IP50 in M200E–SMB)

Mechanical Information

Height	Length	Width
23mm	93mm	94mm including terminal block
Weight	Weight	Maximum Wire Gauge for Terminals
M210E 100g	M220E and M221E 110g	2.5mm^2

M210E-CZ Conventional Zone Module

The M210E-CZ provides an interface between a zone of conventional detectors and an intelligent signalling loop. The module is fitted with in-built short circuit isolation, so that if a short circuit fault in the conventional zone occurs, it will be isolated from the loop. When the line voltage rises above the fixed threshold, the isolator module will detect the removal of the fault condition and automatically restore power to the isolated group of devices. The module uses a capacitive EOL to monitor the convention zone and transmits the zone state (normal, open or short fault and alarm) to the panel.

Electrical Specifications

Operating Voltage Range 15 to 30VDC (18 to 30VDC if the conventional zone is loop powered)	Maximum Standby Current external powered zone 288µA at 24VDC, No communications	500µA at 24VDC, One communication each 5s
Maximum Standby Current, loop powered zone 1.5mA at 24VDC, One communication each 5s		

Environmental Specifications

Operating Temperature Range	Humidity 5 to 95% Relative Humidity (non-condensing)	IP Rating
-20°C to +60°C		IP30 (IP50 in M200E–SMB)

Mechanical Information

Height	Length	Width
23mm	93mm	94mm including terminal block
Weight	Maximum Wire Gauge for Terminals	
110g	2.5mm^2	

Architect/Engineer Specifications

M200 Series Input/Output Modules

M200XE Short Circuit Isolator Module

The M200XE is intended to be spaced between groups of devices on a communication line to protect the line if a short circuit fault occurs. It automatically opens when the voltage in the communication line falls below a fixed threshold. If a short circuit fault occurs, the two isolators located around the device group where the fault occurred will sense the line voltage drop, open their switches and remove the devices from the rest of the line. When the line voltage rises above the fixed threshold, the
isolator module will detect the removal of the fault condition and automatically restore power to the isolated group of devices.

Electrical Specifications

Operating Voltage Range	Maximum Standby Current	Fault Detection Delay
15 to 30VDC	200µA at 24VDC	100 to 400ms

Maximum On Resistance		
0.13 at 15V		

Environmental Specifications

Operating Temperature Range	Humidity 5 to 95% Relative Humidity (non-condensing)	IP Rating
-20℃ to +60℃		IP30 (IP50 in M200E–SMB)

Mechanical Information

Height	Length	Width
23mm	93mm	94mm including terminal block

Weight	Maximum Wire Gauge for Terminals	
62g	2.5mm^2	

M201E Single Output Module

The M201E optionally supervises the wiring to the load devices and, upon command from the control panel, switches an external power supply to operate these devices. It also has built-in short circuit isolation capability. In normal supervised mode, the device switches out the load supervision and switches in the external power supply through a double pole relay.
The external power supply is monitored and raises an unlatched fault condition if the voltage falls below the fixed threshold.
In the unsupervised mode, the device provides neither load nor power supply supervision and can be used to switch a single form C set of changeover contacts.
A field selectable DIL switch allows the module to be used to fully meet the VdS 2489 requirements (subject to panel support). Note: selecting this option imposes an additional restriction on the load that can be switched.

Electrical Specifications

Operating Voltage Range	Maximum Standby Current	510µA at 24VDC, one communication each 5 seconds with LED blink enabled
15 to 30VDC	310µA at 24VDC no communications	

Relay Specifications Normal and unsupervised form C ratings 2A at 30VDC, resistive load		

### Environmental Specifications

Operating Temperature Range	Humidity 5 to 95% Relative Humidity (non-condensing)	IP Rating
-20℃ to +60℃		IP30 (IP50 in M200E–SMB)

Mechanical Information

Height	Length	Width
23mm	93mm	94mm including terminal block

Weight	Maximum Wire Gauge for Terminals	
62g	2.5mm^2	

Architect/Engineer Specifications

M200 Series Input/Output Modules

Bulkhead and DIN Rail Mounting Brackets

93mm × 93mm × 24mm

134mm × 139mm × 40mm
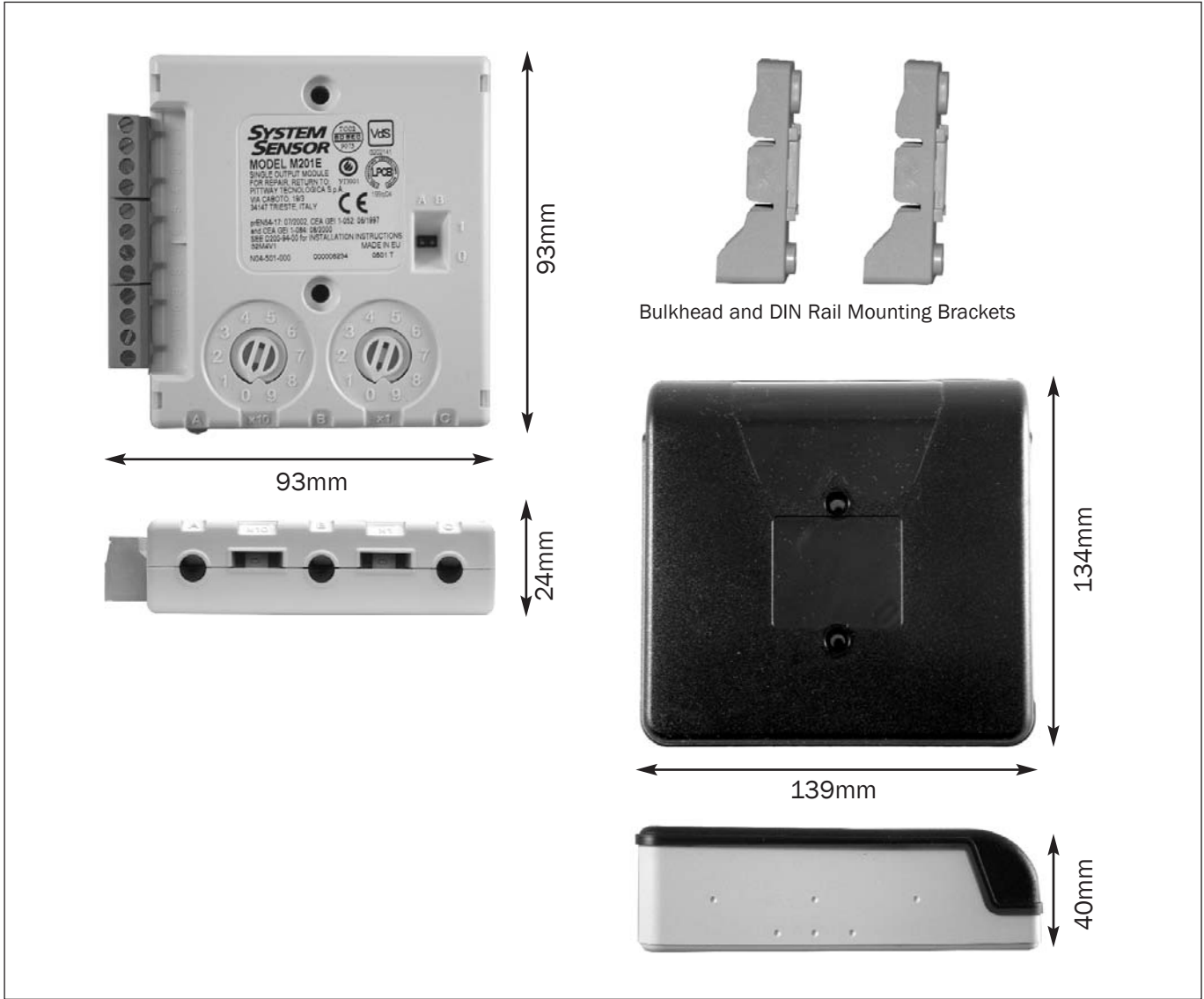
List of Accessories

M200E–SMB	Surface Mounting Box
M200E–SMB–KO	Surface Mount Box with 20mm knockouts
M200–DIN	DIN Rail Mounting Clip
M200–PMB	Panel Mounting Clip
M200–LWP	Pack of 200 pre-stripped wire links

Other Modules in the range (see separate datasheets)

M201E–240	Mains Switching Output Module
M201E–240–DIN	DIN rail mount 240V Mains Switching Output Module
SC–6	Supervised Control Output 6-way
SR–6	Relay Output 6-way
CZ–6	Conventional Zone 6-way

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