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Position:

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Certificate issued by:

SGS UK Limited Rockhead Business Park Staden Lane **Buxton, Derbyshire SK17 9RZ United Kingdom**

P Oates

Certifier





IECEx Certificate of Conformity

Certificate No.:	IECEx BAS 19.0108X	Page 2 of 4				
Date of issue:	2024-01-22	Issue No: 2				
Manager						
Manufacturer:	Great Marlings Butterfield Luton Bedfordshire LU2 8DL United Kingdom					
Manufacturing locations:	Eaton Electric Limite Great Marlings Butterfield Luton Bedfordshire LU2 8DL United Kingdom	MTL Instruments PVT Limited No 3 Old Mahabalipuram Road, Sholinganallur, Chennai, 600 119 India				
This certificate is iss IEC Standard list be found to comply wit Rules, IECEx 02 an	sued as verification that a slow and that the manufac h the IECEx Quality syste d Operational Documents	mple(s), representative of production, was assessed and tested and found to comply with the rer's quality system, relating to the Ex products covered by this certificate, was assessed and requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme s amended				
STANDARDS : The equipment and to comply with the fe	any acceptable variations ollowing standards	it specified in the schedule of this certificate and the identified documents, was found				
IEC 60079-0:2017 Edition:7.0	EC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements dition:7.0					
IEC 60079-7:2015 Edition:5.0	0079-7:2015 Explosive atmospheres – Part 7: Equipment protection by increased safety "e" n:5.0					
This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.						
TEST & ASSESSM A sample(s) of the e	ENT REPORTS: equipment listed has succ	sfully met the examination and test requirements as recorded in:				
Test Reports:						
GB/BAS/ExTR19.02	286/00	3/BAS/ExTR21.0130/00 GB/BAS/ExTR23.0028/00				
Quality Assessment	Reports:					
GB/BAS/QAR06.00	22/10	3/BAS/QAR07.0017/10				



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Certificate No.: IECEx BAS 19.0108X

Date of issue:

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Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

2024-01-22

The SD**xxx & SD**Mxx Series Surge Protection Devices are designed to protect instrumentation and electronic systems from surges and transients conducted through signal cables.

The SD**xxx Series Surge Protection Devices comprises a printed circuit board (PCB) upon which are mounted all the electrical components. The units use two and three terminal gas discharge tubes, diodes, zener diodes, resistors and inductors for operational purposes and may be optionally encapsulated. The p.c.b. is housed within a plastic enclosure with two groups of three terminals (1, 2 & 3 and 4, 5 & 6) at either end of the enclosure, for the connection of the interconnecting cables. An earth shoe is fitted to the equipment to enable connection of an earth bonding conductor with a cross sectional area of at least 4mm². The SD**xxx Series are available in a number of differing configurations and operating voltages. The '**' in the equipment title indicates the nominal voltage the equipment is designed to work at. The 'xxx' in the model number defines the configuration of the circuit dependant on the type of system. This certificate covers the SD**, SD**X, SD**T3, SD**R, SD**R3 and SDrtd ranges of the SD**xxx Series Surge Protection Devices. Depending on the module two plug-in external links may be available to disconnect the signal connections 2 & 5 and 1 & 4. There is also the option for these links to be replaced with plug-in fuse links.

The SD**Mxx Series Surge Protection Devices are based on a module construction and comprise a 'module base' unit which has four options and a plug-in surge 'module insert' which has thirty options. Once the 'module insert' is installed into the 'module base' unit it is retained in place by a locking bar.

The 'module base' unit comprises three input terminals, three output terminals and a printed circuit board, all mounted in an enclosure provided with a mounting slot for the 'module insert' and a conductive foot for mounting on a standard DIN rail. A gas discharge tube may be inserted in connections 3 & 6 to the mounting foot or alternatively this is replaced with a link which directly earths the foot and these components are mounted on a printed circuit board. The 'module base' unit offers the option of maintaining the signal connections 2 & 5 and 1 & 4 when the 'module insert' is removed or interrupting these connections.

The 'module insert' comprises an encapsulated printed circuit board upon which are mounted the electrical components. The modules use two and three terminal gas discharge tubes, diodes, zener diodes, LED's, resistors and inductors for operational purposes mounted on the module PCB and housed within a plastic module with PCB edge connections exposed for connection to the 'module base'. Depending on the module two plug-in external links may be available to disconnect the signal connections 2 & 5 and 1 & 4. There is also the option for these links to be replaced with plug-in fuse links.

The SD**Mxx Series Surge Protection Devices are available in a number of differing configurations and operating voltages. The '**' in the equipment title indicates the nominal voltage the equipment is designed to work at. The 'xx' in the model number defines the configuration of the circuit in terms of whether fuse or disconnect links are fitted and LED indication. Models with a suffix "-HC" are models with a rated current of 4 Amps.

In terms of the 'ec' certification, the differences between the SD**xxx & SD**Mxx Series Surge Protection Devices models are considered not to affect the safety assessment.

See the Certificate Annex for further model details and electrical parameters.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1) The equipment shall only be installed in an area of at least Pollution Degree 2, as defined in IEC 60664-1, and in an enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of IEC 60079-0 & IEC 60079-7.

2) The equipment may not be capable of withstanding the 500V dielectric strength test in accordance with clause 7.1 of IEC 60079 7, and this must be taken into account during installation.

3) All pluggable connections between the module and base, and where fitted, the disconnect or fuse links must not be inserted or removed unless the area in which the equipment is installed is known to be non-hazardous, or the circuit to which it is connected has been deenergised.

4) Unused terminals on the equipment shall be tightened.



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Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above) Variation 2.1

To permit the addition of the high current models SD32-MXL-HC and SD32-MXX-HC.

Variation 2.2

Date of issue:

To permit the addition of models with spring cage user terminals.

ExTR: GB/BAS/ExTR23.0028/00	File Reference: 23/0181
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Annex:

IECEx BAS 19.0108X Annex 1_1.pdf

SGS Baseefa Limited Rockhead Business Park Staden Iane, Buxton, Derbyshire SK17 9RZ United Kingdom		SGS
ANNEX to IECEx BAS 19.0108X	Issue No. 1	Date: 2024/01/19

SD**xxx Series Model Information & Electrical Parameters

The SD**xxx Series Surge Protection Devices are available in a number of differing configurations and operating voltages. The '**' in the equipment title indicates the nominal voltage the equipment is designed to work at. For example, a unit marked SD07xxx has a nominal working voltage of 7V. The 'xxx' in the model number defines the configuration of the equipment. The differing configurations, working voltage and operating voltage of the device are not critical for the safety assessment.

The following tables detail the SD**xxx Series Surge Protection Devices model range covered by the certification: -

Model Number Definition:

SD						
	**		Nominal Working Voltage: Either 07 (7V), 16 (16V), 32 (32V) or 55			
			(55V). B	(55V). Blank for SDrtd model		
		XXX	Device C	Conf	figuration: Either: -	
			Blank	=	Two wire and earth connection	
			R	R = Two wire and earth configuration with Li = 0.		
			R3	R3 = Three wire and earth configuration with $Li = 0$.		
			Х	X = Two wire and earth configuration with Li = 0.22mH.		
			Т3	Π	Three wire and earth configuration with Li = 0.22mH.	
			rtd	Π	Three wire and earth configuration with Li = 0 & matched	
					resistors in signal lines.	

Input: Field Terminal Ratings (except SDrtd model)

The Maximum Continuous Operating Voltage (MCOV) is model dependent as defined in the table below: -

Model Number	MCOV
SD07**	7.7V
SD16**	17V
SD32**	36V
SD55**	62V

The maximum rated current is model dependent and is defined in the table below: -

Model Number	Max. Rated Current
SD**	250mA
SD**R	400mA
SD**R3	400mA
SD**X	400mA
SD**T3	400mA

<u>Input: Field Terminal Ratings (SDrtd Variant only)</u> Maximum Continuous Operating Voltage (MCOV) = 5V Rated Current = 10mA

<u>Output: Surge Protected Terminal Ratings (All Models)</u> Output Voltage = Input Voltage



SD**Mxx Series Model Information & Electrical Parameters

The SD**Mxx Series Surge Protection Devices are available in a number of differing configurations and operating voltages. The '**' in the equipment title indicates the nominal voltage the equipment is designed to work at. For example, a unit marked SD07Mxx has a nominal working voltage of 7V. The differing configurations, working voltage and operating voltage of the device are not critical for the safety assessment.

The following tables detail the SD**Mxx Series Surge Protection Devices model range and the 'module insert' & 'module base' options covered by the certification: -

Model Number Definition:

SD							
	**			Nomi	inal W	orking Voltage: Either 07 (7V), 16 (16V), 32 (32V) or 55 (55V)	
		М		Modu	Modular		
			ХХ	Devid	Device Configuration: Either: -		
				FX	FX = Fuse Link Fitted		
				DX	DX = Disconnect Links fitted for Maintenance		
				XX	XX = No LED or Disconnect Link Fitted		
				XL	XL = LED "Normally Off with Failure On" Fitted		
					HC	= High current (4A)	

Module Insert Options:

Working	Working	Working	Working	Series	Disconnect	LED
Voltage	Voltage	Voltage 32V	Voltage	Impedance	Links	
7V	16V		55V			
SD07MXX	SD16MXX	SD32MXX	SD55MXX	<0.5Ω		
SD07MXL	SD16MXL	SD32MXL	SD55MXL	<0.5Ω		Fitted
SD07MDX	SD16MDX	SD32MDX	SD55MDX	2-2.4Ω	Fitted	
SD07MFX	SD16MFX	SD32MFX	SD55MFX	2-2.4Ω	Disconnect	
					Fuse Fitted	
		SD32MXX-HC		<0.5Ω		
		SD32MXL-HC		<0.5Ω		

Module Base Options:

'Module Base'	Gas Discharge tube from	Maintains the signal connections 2 & 5 and 1 & 4 with
Туре	3 & 6 to mounting foot	'module insert' removed
SDBE-BCN/CCN	Not Fitted	Maintains the signal connections, with insert removed
SDBE-BDN/CDN	Not Fitted	Disconnects signal connections, with insert removed
SDBE-BCG/CCG	Fitted	Maintains the signal connections, with insert removed
SDBE-BDG/CDG	Fitted	Disconnects signal connections, with insert removed

SDBE-Bxx models use screw cage terminals. SDBE-Cxx models use spring cage terminals.

Input: Field Terminal Ratings

The Maximum Continuous Operating Voltage (MCOV) is model dependent as defined in the table below: -

Model Number	MCOV
SD07M**	7.7V
SD16M**	17V
SD32M**	36V
SD55M**	62V





ANNEX to IECEx BAS 19.0108X

Issue No. 1

Date: 2024/01/19

The maximum rated current is model dependent and is defined in the table below: -

Model Number	Max. Rated Current
SD**M**-HC	4A
SD**MXX	700mA
SD**MXL	700mA
SD**MDX	700mA
SD**MFX	250mA

<u>Output: Surge Protected Terminal Ratings</u> Output Voltage = Input Voltage