




**Surge arrester
MCR protection for Ex areas**



02_TBS Masterkatalog Lander / 30/11/2016 (LLExpert_044.08) / 30/11/2016

Surge protection, Ex protection

	Series protection device, 4-pole, 5 V	431
	Series protection device, 4-pole, 24 V	432
	Series protection device, 4-pole, 48 V	433
	MCR protection, 2-pole 24 V	435
	MCR protection, 3-pole 24 V	436

MCR protection for Ex areas: the plus of the MDP Ex family

- + Protection device for multi-wire systems (4-pole)
- + Direct shield earthing
- + Easy-mounting, screwless connection option
- + Space-saving width of just 8.7 mm
- + Ex-tested for intrinsically safe measuring circuits
- + High frequency bandwidth up to 100 MHz



Series protection device,
Ex protection
2–4-pole, 5–48 V

Surge protection in potentially explosive areas is an important topic. Here, it is important to protect costly measuring technology against the influence of surge voltages through atmospheric dis-

charge. OBO lightning barriers are tested for intrinsic safety (ia) and are independently certified. With a high arresting capacity of 10 kA, they offer optimum protection for four-pole measurement and con-

trol applications. Different voltage variants offer a wide range of applications.



Series protection device, 4-pole, 5 V version, Ex-tested



Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-5-EX	7	10	4	1	5,800	5098412

/pc.

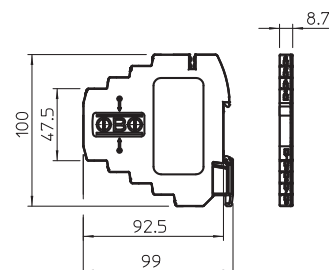
MDP-4 D...-EX : Lightning barrier for intrinsically safe measuring circuits

- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- High frequency range of 0-100 MHz
- Ex-tested: Ex II 2(1) G Ex ia IIC T4 (BVS 11 ATEX E 131 X)
- UL-listed (4UM2)

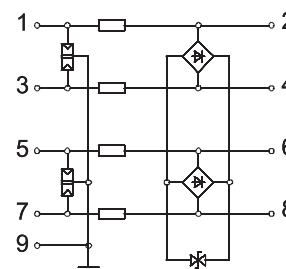
Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.



Dimensions



Connection options

**MDP-4 D-5-EX**

Maximum continuous voltage AC	U_c	7 V
Maximum continuous voltage DC	U_c	10 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0-3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω \pm 5 %
Impulse current resistance wire-wire		C1: 0,5 KV / 0,25 kA (8/20 μ s)
Impulse current resistance wire-earth		C2: 5 KV / 2,5 kA (8/20 μ s)
Total arrester surge current (8/20)		10 kA
Total arrester surge current (10/350)		D1: 2 kA
Protection level wire-wire		< 35 V
Protection level wire-earth		<800 V
Frequency range		0-100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm ²
Connection cross-section, multi-wire		0.14 - 1.5 mm ²
Connection cross-section rigid		0.14 - 2.5 mm ²
Earthing via:		DIN rail
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4 Gb
Testing standard		IEC 61643-21



Series protection device, 4-pole, 24 V version, Ex-tested



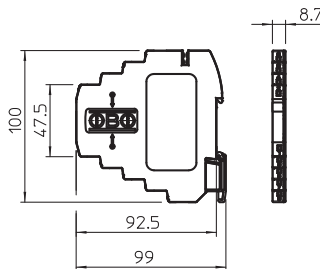
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-24-EX	20	28	4	1	5,800	5098432

/pc.

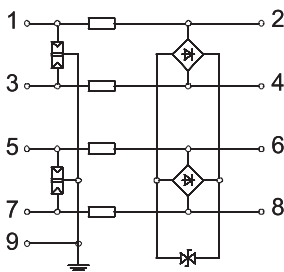
MDP-4 D...-EX : Lightning barrier for intrinsically safe measuring circuits

- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- High frequency range of 0-100 MHz
- Ex-tested: Ex II 2(1) G Ex ia IIC T4 (BVS 11 ATEX E 131 X)
- UL-listed (4UM2)

Dimensions



Connection options



MDP-4 D-24-EX

Maximum continuous voltage AC	U_c	20 V
Maximum continuous voltage DC	U_c	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0-3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω \pm 5 %
Impulse current resistance wire-wire		C1: 0,5 KV / 0,25 kA (8/20 μ s)
Impulse current resistance wire-earth		C2: 5 KV / 2,5 kA (8/20 μ s)
Total arrester surge current (8/20)		10 kA
Total arrester surge current (10/350)		D1: 2 kA
Protection level wire-wire		< 55 V
Protection level wire-earth		<800 V
Frequency range		0-100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm ²
Connection cross-section, multi-wire		0.14 - 1.5 mm ²
Connection cross-section rigid		0.14 - 2.5 mm ²
Earthing via:		DIN rail
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4 Gb
Testing standard		IEC 61643-21



Series protection device, 4-pole, 48 V version, Ex-tested



Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-48-EX	41	58	4	1	5,800	5098452

/pc.

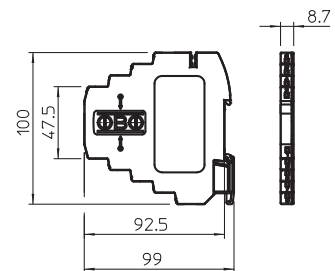
MDP-4 D...-EX : Lightning barrier for intrinsically safe measuring circuits

- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- High frequency range of 0-100 MHz
- Ex-tested: Ex II 2(1) G Ex ia IIC T4 (BVS 11 ATEX E 131 X)
- UL-listed (4UM2)

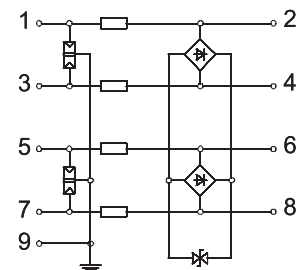
Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.



Dimensions



Connection options

**MDP-4 D-48-EX**

Maximum continuous voltage AC	U_c	41 V
Maximum continuous voltage DC	U_c	58 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0-3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 $\Omega \pm 5\%$
Impulse current resistance wire-wire		C1: 0,5 KV / 0,25 kA (8/20 μ s)
Impulse current resistance wire-earth		C2: 5 KV / 2,5 kA (8/20 μ s)
Total arrester surge current (8/20)		10 kA
Total arrester surge current (10/350)		D1: 2 kA
Protection level wire-wire		< 95 V
Protection level wire-earth		<800 V
Frequency range		0-100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm ²
Connection cross-section, multi-wire		0.14 - 1.5 mm ²
Connection cross-section rigid		0.14 - 2.5 mm ²
Earthing via:		DIN rail
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4 Gb
Testing standard		IEC 61643-21



MCR protection for explosive areas: the plus of the Petrol Field Protector family

- + For potentially explosive areas
- + Two or three-pole protection of various sensors
- + Metric or NPT thread
- + Robust VA housing
- + High arresting capacity



Surge protection
with NPT or
metric thread

Function and areas of use

With the Petrol Field Protector for data cable protection devices, OBO Bettermann can offer a surge protection device for sensors in potentially explosive areas. The Petrol Field Protector permits two or three-pole protection for all

kinds of sensors. The protection device can be fastened directly on the sensor and wired in using the appropriate metric or NPT thread. The robust VA housing means that aggressive atmospheres are no problem. The intrinsic safety of the Petrol Field Protector was inde-

pendently tested and certified. The Petrol Field Protector is your partner for safety-relevant applications in which effective surge protection must be guaranteed.



MCR protection for explosive areas, 2-pole, 24 V



Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-2 24-M	22	32	2-pole; metric	1	18,500	5098380

/pc.

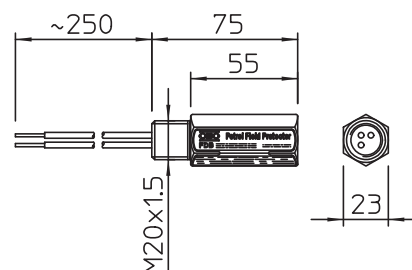


Petrol field protector FDB for intrinsically safe measuring circuits and bus systems

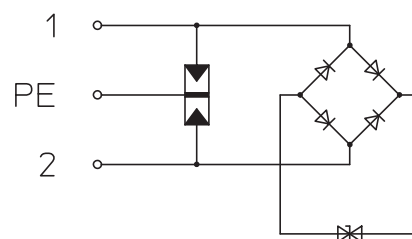
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- Ex-tested: Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options

**FDB-2 24-M**

Maximum continuous voltage AC	U_c	22 V
Maximum continuous voltage DC	U_c	32 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		2
Impulse current resistance wire-wire		C1: 0,5 kV / 0,25 kA (8/20 μ s)
Impulse current resistance wire-earth		C2: 5 kV / 2.5 kA (8/20 μ s)
Total arrester surge current (8/20)		10 kA
Protection level wire-wire		<80 V
Protection level wire-earth		<800 V
Temperature range	ϑ	-20 - +70 °C
Installation type		Screw-on
Protection rating		IP65/67
Mounting of input / output		M20 x 1.5 external thread
Mounting of field / device side:		Connection cable 1.5 mm ² Length ~ 250 mm
Earthing via:		Connection cable
Housing material		V2A
EX approval		Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)
Testing standard		IEC 61643-21



MCR protection for explosive areas, 3-pole, 24 V



Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-3 24-M	22	32	3-pole; metric	1	19,000	5098382

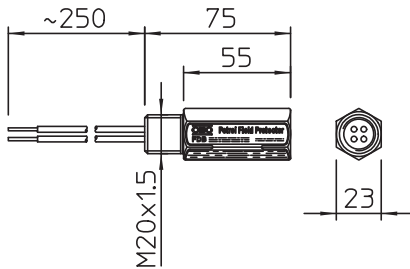
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Petrol field protector FDB for intrinsically safe measuring circuits and bus systems

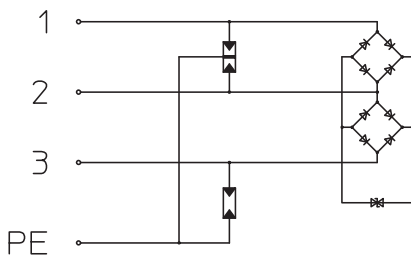
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- Ex-tested: Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-3 24-M

Maximum continuous voltage AC	U_c	22 V
Maximum continuous voltage DC	U_c	32 V
Category	Type 2+3 / C2+C1	
Lightning protection zone LPZ	1→3	
Number of poles	3	
Impulse current resistance wire-wire	C1: 0,5 kV / 0,25 kA (8/20 μ s)	
Impulse current resistance wire-earth	C2: 5 kV / 2,5 kA (8/20 μ s)	
Total arrester surge current (8/20)	10 kA	
Protection level wire-wire	<80 V	
Protection level wire-earth	<800 V	
Temperature range	ϑ	-20 - +70 °C
Installation type	Screw-on	
Protection rating	IP65/67	
Mounting of input / output	M20 x 1.5 external thread	
Mounting of field / device side:	Connection cable 1.5 mm ² Length ~ 250 mm	
Earthing via:	Connection cable	
Housing material	V2A	
EX approval	Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)	
Testing standard	IEC 61643-21	



MCR protection for explosive areas, 2-pole, 24 V



Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-2 24-N	22	32	2-pole; NPT	1	19,000	5098390

/pc.

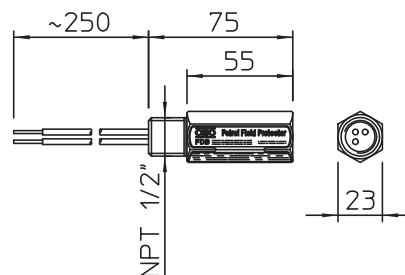


Petrol field protector FDB for intrinsically safe measuring circuits and bus systems

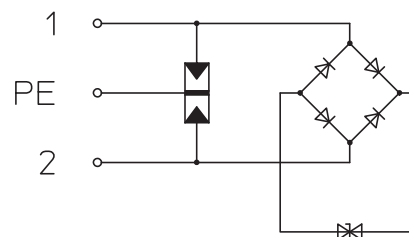
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- Ex-tested: Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-2 24-N

Maximum continuous voltage AC	U_c	22 V
Maximum continuous voltage DC	U_c	32 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		2
Impulse current resistance wire-wire		C1: 0,5 kV / 0,25 kA (8/20 μ s)
Impulse current resistance wire-earth		C2: 5 kV / 2.5 kA (8/20 μ s)
Total arrester surge current (8/20)		10 kA
Protection level wire-wire		<80 V
Protection level wire-earth		<800 V
Temperature range	ϑ	-20 - +70 °C
Installation type		Screw-on
Protection rating		IP65/67
Mounting of input / output		1/2" NPT
Mounting of field / device side:		Connection cable 1.5 mm ² Length ~ 250 mm
Earthing via:		Connection cable
Housing material		V2A
EX approval		Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)
Testing standard		IEC 61643-21



MCR protection for explosive areas, 3-pole, 24 V



Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-3 24-N	22	32	3-pole; NPT	1	19,500	5098392

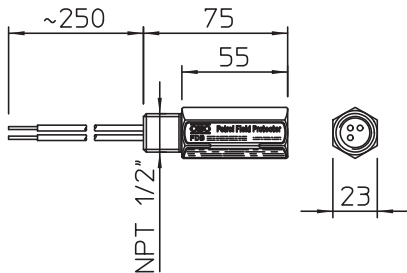
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Petrol field protector FDB for intrinsically safe measuring circuits and bus systems

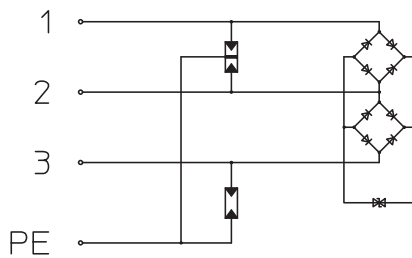
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- Ex-tested: Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-3 24-N

Maximum continuous voltage AC	U_c	22 V
Maximum continuous voltage DC	U_c	32 V
Category	Type 2+3 / C2+C1	
Lightning protection zone LPZ	1→3	
Number of poles	3	
Impulse current resistance wire-wire	C1: 0,5 kV / 0,25 kA (8/20 μ s)	
Impulse current resistance wire-earth	C2: 5 kV / 2,5 kA (8/20 μ s)	
Total arrester surge current (8/20)	10 kA	
Protection level wire-wire	<80 V	
Protection level wire-earth	<800 V	
Temperature range	ϑ	-20 - +70 °C
Installation type	Screw-on	
Protection rating	IP65/67	
Mounting of input / output	1/2" NPT	
Mounting of field / device side:	Connection cable 1.5 mm ² Length ~ 250 mm	
Earthing via:	Connection cable	
Housing material	V2A	
EX approval	Ex II 2(1) G Ex ia IIC T6 (BVS 10 ATEX E 48)	
Testing standard	IEC 61643-21	

