

# MM 2012 – 1

## Intrinsically Safe Power Adapter (One Channel)

INTRINSICALLY  
SAFE  
SECURITY SYSTEMS

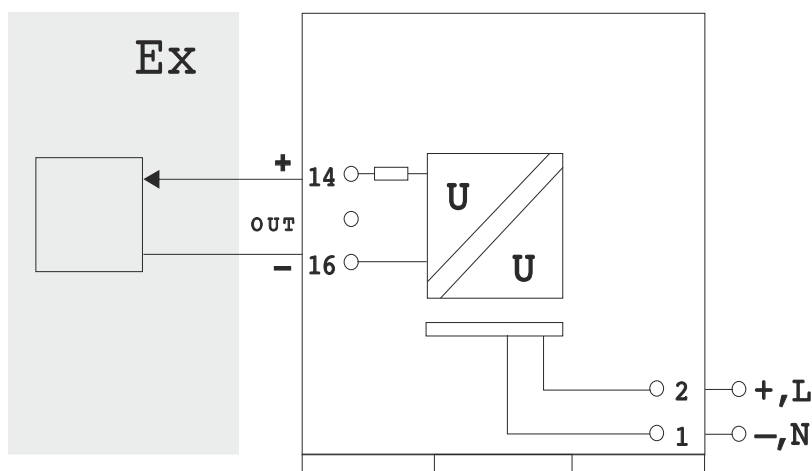
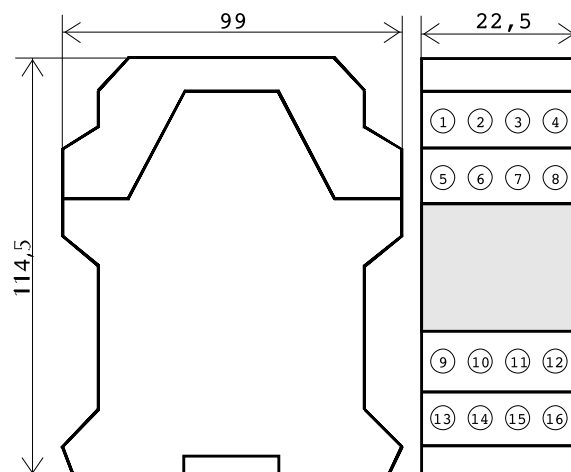


### DESCRIPTION:

Intrinsically safe power supply units are designed for powering devices located in the hazardous areas.  
Device has galvanically separated output power supply circuit from input power supply circuit.

### KEY POINTS:

- One-channel Intrinsically Safe Power Adapter
- Input Circuit According to DIN 19234 (NAMUR)
- Galvanically Separated Output Power Supply Circuit from Input Power Supply Circuit
- Suitable as Power Supply for PIR and PIR+MW detectors



### CONNECTION:

- 1 - Power Supply -Ucc/N
- 2 - Power Supply +Ucc/L
- 14,16 - Output 1

### MULTI-CORE A TYPE WIRE CONNECTION:

Environmental Class	II (1G) [Ex ia] IIB, I (M1) [Ex ia] I
$U_o$	13.02 V
$I_o$	125m A
$P_o$	0.407 W
IIC - $C_o/L_o$	0.5 $\mu$ F/0.5 mH
IIB - $C_o/L_o$	3 $\mu$ F/0.5 mH
IIA - $C_o/L_o$	10 $\mu$ F/4 mH
I - $C_o/L_o$	10 $\mu$ F/6 mH

### MULTI-CORE NO TYPE WIRE CONNECTION:

Environmental Class	II (1G) [Ex ia] IIB, I (M1) [Ex ia] I
$U_o$	13.02 V
$I_o$	500 mA
$P_o$	1.628 W
IIC - $C_o/L_o$	0.5 $\mu$ F/0.5 mH
IIB - $C_o/L_o$	3 $\mu$ F/1 mH
IIA - $C_o/L_o$	10 $\mu$ F/1 mH
I - $C_o/L_o$	10 $\mu$ F/1 mH

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### TECHNICAL DATA:

Exemplary Marking	2012 177 230 (230V AC)	2012 177 024 (24V DC)	2012 177 012 (12V DC)
<b>Power Supply</b>			
Input Voltage	60 V - 230 V / 50 Hz	12 - 80 Vss	12 - 80 Vss
Power (Full Load)	max. 2.5 VA	max. 2.5 VA	max. 2.5 VA
<b>LED Indication:</b>			
Power Supply	Green	Green	Green
<b>Environmental Class</b>	II 2 G [Ex ia] IIC, II 1 G [Ex ia] IIC, I M1 [Ex ia] I.	II 2 G [Ex ia] IIC, II 1 G [Ex ia] IIC, I M1 [Ex ia] I.	II 2 G [Ex ia] IIC, II 1 G [Ex ia] IIC, I M1 [Ex ia] I.
<b>Housing</b>			
Dimensions	99 mm x 22,5 mm x 114,5 mm (HxWxD)	99 mm x 22,5 mm x 114,5 mm (HxWxD)	99 mm x 22,5 mm x 114,5 mm (HxWxD)
Housing Type	16 Contacts	16 Contacts	16 Contacts
Mounting	DIN 35	DIN 35	DIN 35
Fixing	Screws/Contacts	Screws/Contacts	Screws/Contacts
IP Rating	IP20	IP20	IP20
Temperature Range	-20 - 80°C	-20 - 80°C	-20 - 80°C

### TERMINALS TECHNICAL DATA:

TYPE	Intrinsically Safe Terminals				IIC		IIC		IIC		IIB		IIB		IIB		I	
		Ex output	U <sub>o</sub>	I <sub>o</sub>	P <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	
	Ex input	U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	
		V	mA	mW	nF	mH	nF	mH	nF	mH	nF	mH	nF	mH	nF	mH	nF	mH
MM 2024	14(10) - 16(12)	28	82	0.58	70	0	60	1	30	4.1	150	10	350	0	0	10	480	8
MM 2012	14(10) - 16(12)	15.8	149	0.589	x	x	600	0.8	x	x	1600	2.2	x	x	x	x	1600	2.2
MM 2012 (16,8V)	14(10) - 16(12)	16.8	177	0.744	240	1.1	x	x	x	x	x	x	x	x	x	x	8 µF	10
MM 2012 L	14(10) - 16(12)	12.6	184	0.58	240	1.1	240	1.1	240	1.1	240	1.1	240	1.1	240	1.1	8 µF	10
MM 2005	14(10) - 16(12)	9.9	198	0.49	x	x	1900	0.6	x	x	3100	1.8	x	x	x	x	3100	1.8
MM 2005 (10,5V)	14(10) - 16(12)	10.5	221	0.58	1.8 µF	0.8	x	x	x	x	x	x	x	x	x	x	50 µF	7.8
MM 2005 B	14(10) - 16(12)	8.2	870	1.8	x	x	x	x	x	x	0	0.3	70 µF	0	25 uF	0.1	25 µF	0.1

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## Intrinsically Safe 12V Power Adapter (Two Channels)

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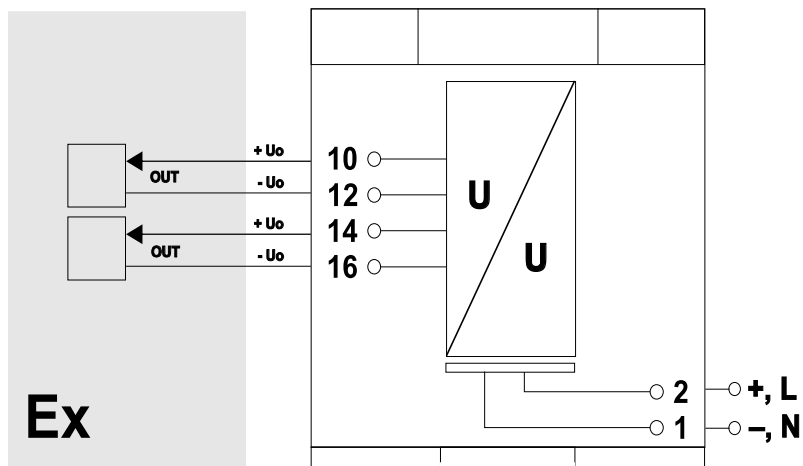
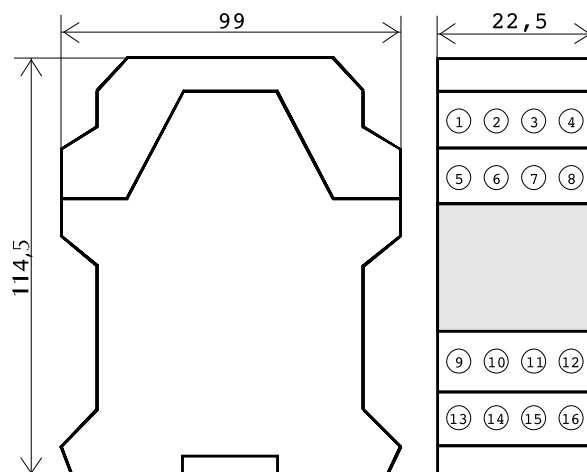


### DESCRIPTION:

Intrinsically safe power supply units are designed for powering devices located in the hazardous areas.  
Device has galvanically separated output power supply circuit from input power supply circuit.

### KEY POINTS:

- Two-channel Intrinsically Safe Power Adapter
- Input Circuit According to DIN 19234 (NAMUR)
- Galvanically Separated Output Power Supply Circuit from Input Power Supply Circuit
- Suitable as Power Supply for PIR and PIR+MW detectors



### CONNECTION:

- 1 - Power Supply -Ucc/N
- 2 - Power Supply +Ucc/L
- 10,12 - Output 1
- 14,16 - Output 2

### MULTI-CORE A TYPE WIRE CONNECTION:

Enviromental Class	II (1G) [Ex ia] IIB, I (M1) [Ex ia] I
$U_o$	13.02V
$I_o$	125mA
$P_o$	0.407W
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### MULTI-CORE NO TYPE WIRE CONNECTION:

Enviromental Class	II (1G) [Ex ia] IIB, I (M1) [Ex ia] I
$U_o$	13.02V
$I_o$	500mA
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### TECHNICAL DATA:

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Power Supply	Green	Green	Green
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<b>Housing</b>			
Dimensions	99 mm x 22,5 mm x 114,5 mm (HxWxD)	99 mm x 22,5 mm x 114,5 mm (HxWxD)	99 mm x 22,5 mm x 114,5 mm (HxWxD)
Housing Type	16 Contacts	16 Contacts	16 Contacts
Mounting	DIN 35	DIN 35	DIN 35
Fixing	Screws/Contacts	Screws/Contacts	Screws/Contacts
IP Rating	IP20	IP20	IP20
Temperature Range	-20 - 80°C	-20 - 80°C	-20 - 80°C

### TERMINALS TECHNICAL DATA:

TYPE	Intrinsically Safe Terminals				IIC		IIC		IIC		IIB		IIB		IIB		I	
		Ex output	U <sub>o</sub>	I <sub>o</sub>	P <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>	C <sub>o</sub> to L <sub>o</sub>		
	Ex input	U <sub>i</sub>	I <sub>i</sub>	P <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>	C <sub>i</sub> to L <sub>i</sub>		
		V	mA	mW	nF	mH	nF	mH	nF	mH	nF	mH	nF	mH	nF	mH	nF	mH
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MM 2005 B	14(10)-16(12)	8.2	870	1.8	x	x	x	x	x	x	0	0.3	70uF	0	25uF	0.1	25uF	0.1