



Measurement- and Control Equipment Series 8214, 8218

- Explosion protection to
 - CENELEC
 - IEC
- Can be used in Zone 1 and Zone 2
- Designed for panel mounting
- Enclosure material
 - 8218: Polyester resin
 - 8214: Aluminium, painted
- Versions
 - 8218: Ammeter
 - Voltmeter
 - Running hours counter
 - Pulse Counter
 - Keyboard
 - Potentiometer
 - 8214: Preset impulse counter
 - Time Relay



R 30689P

8218
Ammeter

Ammeters and voltmeters

Available with moving coil or moving iron movement for DC or AC measurement. They are fitted into series 8218 Ex d enclosures and are suitable for panel mounting.

Technical data								
Version	8218							
Explosion protection	EEx de IIC T6							
Test certificate	PTB Nr. Ex-92.C.1089 other certificates: BKI (Hungary), SEV (Switzerland),							
Enclosure material	Polyester resin; colour: dark grey, RAL 7024							
Front plate size	96 x 96 mm							
Moving coil instrument	for DC measurement, class 1.5							
Ammeter	650 V							
Insulation voltage	I [μ A]	40	60	100	150	250	400	600
Measuring ranges	R _i [Ω]	2800	2700	2750	2750	1050	450	170
	for higher currents see selection table							
Voltmeter	for DC measurement							
Insulation voltage	650 V							
Measuring ranges	see selection table							
Internal resistance	R _i ca. 1000 Ω /V							
Moving iron instrument	for DC measurement, class 1,5							
Insulation voltage	650V							
Measuring ranges	see selection table							
Power consumption	0,1 ... 5 VA							
Frequency	15 – 100 Hz							
Overload scale	Ammeter: 2 times							
Degree of protection	IP 65							
Ambient temperature	- 15° C ... + 40° C							
Terminals	max. 1,5 mm ² flexible/solid							
Cable entries	1 x M 20 x 1,5 cable gland							

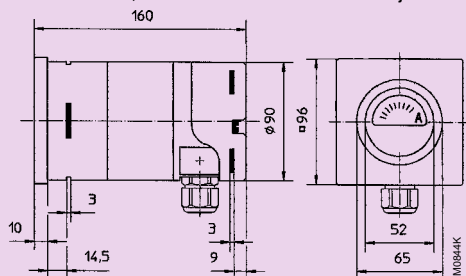
Selection table

Version	Description	Mea. unit	Measuring ranges (standard series)	Ordering code	Weight [kg]
8218 Ammeter/ Voltmeter	Ammeter (moving coil instrument)	μ A	40, 60, 100, 150, 250, 400, 600 μ A	8218/311-5-S08- □	1,3
		mA	1, 1,5, 2,5, 4, 6, 10, 15, 20, 25, 40, 60, 100, 150, 250, 400, 600 mA		
		A	1, 1,5, 2,5, 4, 6, 10 A		
	Voltmeter	mV	25, 40, 60, 100, 150, 250, 400, 600 mV	8218/311-5-S08- □	1,3
		V	1, 1,5, 2,5, 4, 6, 10, 15, 25, 40, 60, 100, 150, 250, 400, 600 V		
		mA	100, 150, 250, 400, 600 mA		
Ammeter (moving coil instrument)	A	1, 1,5, 2,5, 4, 6, 10, 15, 25, 40 A n/1, n/5 current transformer	8218/311-5-S09- □	1,3	
	Voltmeter	V			6, 10, 15, 25, 40, 60, 100, 150, 250, 400 V

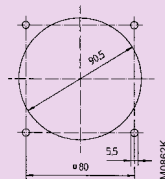
Add. to ordering code:

Complete type no. with measurement range
Example: 8218/311 - 5 - S08 - 20 mA

Dimensions, all dimensions in mm – subject to alteration

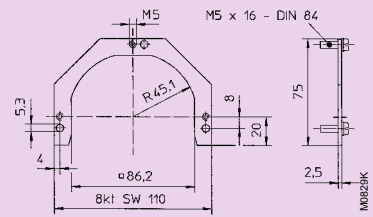


Ammeter/Voltmeter, 8218/311- ...



Panel cutout

Fixing for enclosure 8218



Mounting clamp

STAHL

Running-Hour Counter for Panel Mounting Series 8218



8218
Running-hour counter

Running-hour counter, 8218

The counters are available for connection in AC and DC circuits. AC counters are driven by a synchronous motor with an appropriate gear system. The DC unit incorporates a quartz clock mechanism.

Technical data		
Running-hour counter	for AC	for DC
Explosion protection	EEx de IIC T6	EEx de IIC T6
Test certificate	PTB Nr. Ex-92.C.1089 Other certificates: BKI (Hungary), SEV (Switzerland)	PTB Nr. Ex-92.C.1089 Other certificates: BKI (Hungary), SEV (Switzerland)
Rated voltage Standard	230 V, 50 Hz	10 ... 80 V; 2 ... 25 V; 80 ... 220 V, DC
Special	12, 24, 36 ... 48, 115, 400 V, 50 Hz or 230 V, 60 Hz	
Counter	7-figure	7-figure
Measuring range	99999,99 h digital without zero reset	99999,99 h digital without zero reset
Indicator	1,5 x 3,5 mm Figures white on black	1,5 x 3,5 mm Figures white on black
Degree of protection	IP 65	IP 65
Ambient temperature	-20° C ... +70° C	-20° C ... +50° C

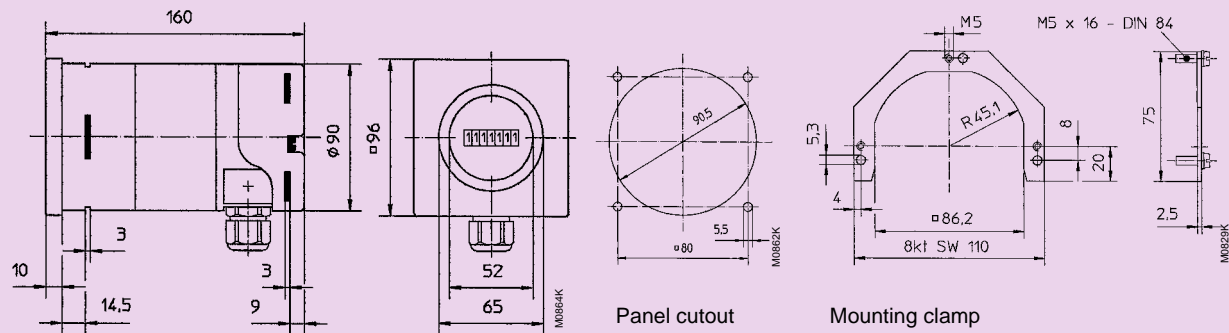
Selection table

Version		Ordering code	Weight [kg]
8218 Running-hour counter	for AC	8218/311 - 5 - S05 - □□□ V, □□ Hz	1,2
	for DC	8218/311 - 5 - S04 - □□□ V, DC	1,5

Add. to ordering code: specify voltage and frequency



Dimensions, all dimensions in mm – subject to alteration



Running-hour counter, 8218/212-- ...

Fixing for enclosure 8218



8218
Potentiometer

Potentiometer, 8218

Series 8218 potentiometers are available as slide-wire potentiometers with a rated capacity of 10 W and as precisions potentiometers with a rated capacity of 3 W or 5 W.

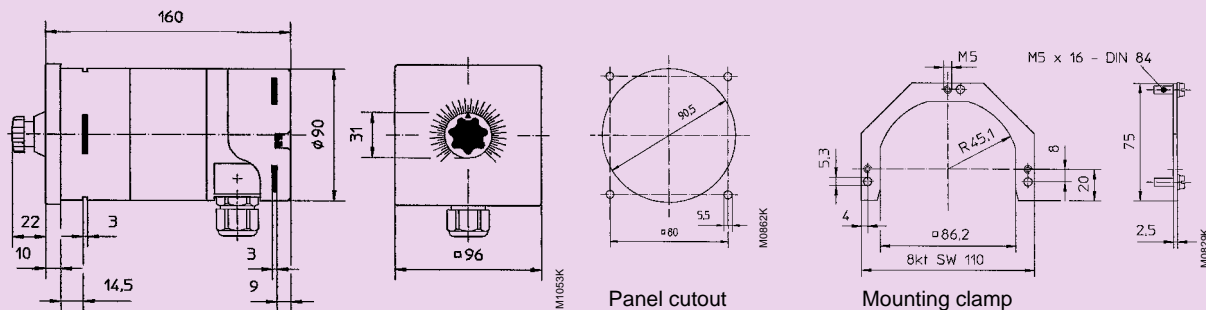
Technical data		
Potentiometer	Slide wire 10 W	Precision helical 10-turn, 5 W
Explosion protection	EEx de IIB T6	EEx de IIC T6
Test certificate	PTB Nr. Ex-92.C.1090 Other certificates: BKI (Hungary), SEV (Switzerland)	PTB Nr. Ex-92.C.1089 Other certificates: BKI (Hungary), SEV (Switzerland)
Resistance values	4,7 Ω ... 20 kΩ	50 Ω ... 300 kΩ
Characteristic	linear	linear
Tolerance	± 5 %	± 3 %
Test voltage	2500 V, AC	1000 V, AC
Adjustment scale	270 °	3600; +10° to 0° 10 rotations with precision scale drive
Ambient temperature	- 20° C ... + 40° C	- 20° C ... + 40° C
Degree of protection	IP54	IP54

Selection table

Version	Description	Rated power	Resistance values	Ordering code	Weight [kg]
8218 Potentiometer	Slide wire	10 W	4,7; 10; 22; 47; 100; 470 Ω 1; 2,2; 4,7; 10; 20 kΩ	8218/212 – 5 – S13 – □	1,3 kg
	Precision helical 10-turn design	5 W	50; 100; 200; 500 Ω 1; 2; 5; 10; 20; 50; 100; 200; 500 kΩ	8218/311 – 5 – S12 – □	1,3 kg

Add. to ordering code: complete resistance value

Dimensions, all dimensions in mm – subject to alteration



Slide wire potentiometer, 8218/311-...

Fixing enclosure 8218



Preset Pulse Counter for Panel Mounting Series 8214



R3232P

8214
Preset pulse counter

Preset pulse counter, 8214

Has the following features:

- High input frequency, max. 5 kHz
- Various input options
- High accuracy
- High interference immunity

Technical data

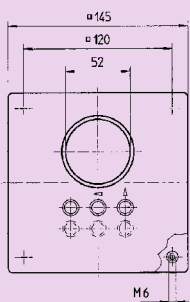
Explosion protection	EEx de IIB T6
Test certificate	PTB Nr. Ex-88.C.1067 Further certificates: BKI (Hungary), SEV (Switzerland)
Ambient temperature	0° C ... + 40° C
Rated voltage	100 ... 240 V ± 10 %, 50/60 Hz possible 24 V AC ± 10 % 24 V DC – 5 % + 10 %
Indicator	5-figure, 7 LED, red, 7 mm high
Duty rating	100 % ED
Counting method	additive
Output	Relay output; 1 changeover
Switching voltage	max. 250 V
Contact rating	max. 100 VA

Selection table

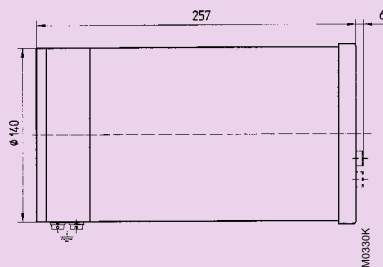
Version			Ordering code	Weight [kg]
8214 Preset pulse counter	Standard mechanical and electronical pulse generators	Mechanical pulse generator, max. 30 Hz	8214/122 – 2 – S30	5,5
		Electronic pulse generator, max. 5 kHz	8214/122 – 2 – S34	5,5
		Voltage pulses, max. ± 40 V	8214/122 – 2 – S35	5,5
	Version for EEx i input pulse	Mechanical pulse generator	8214/122 – 2 – S33	5,5
		Electrical pulse generator to NAMUR	8214/122 – 2 – S32	5,5

Add. to ordering code: Voltage and frequency

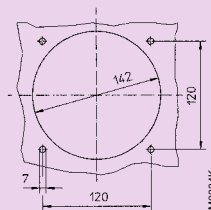
Dimensions, all dimensions in mm – subject to alteration



Preset pulse counter, 8214/122-2-S..



Remove cable entries
and earthing terminals
when fitting



Panel cutout



Time relay, 8214

Both pre-selected time range and time setting can be adjusted externally during operation. The timer relays can be supplied in pick-up delayed and drop-out delayed versions.

Technical data	
Explosion protection	EEx de IIC T6
Test certificate	PTB Nr. Ex-88.C.1067 Other certificates: BKI (Hungary), SEV (Switzerland)
Degree of protection	IP54
Ambient temperature	-10° C ... +55° C
Rated voltage	24 V, 42 V, 125 V, 230 V, 50 or 60 Hz
Contacts	1 immediate and 1 delayed changeover 1 delayed changeover

8214
Time relay

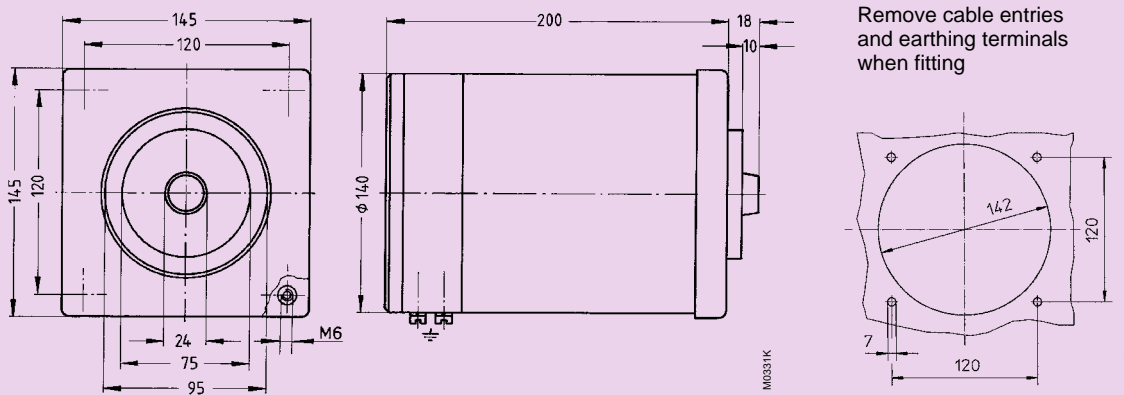
Selection table

Version	Description	Time range setting	Ordering code	Weight [kg]
8214 Time relay	pick-up delayed	outside 0,1 s ... 30 h	8214/121-2-S03/0,1 s-30 h-□ V-□ Hz	4,7
		outside 0,2 s ... 60 h	8214/121-2-S03/0,2 s-60 h-□ V-□ Hz	4,7
	pick-up delayed undervoltage proof	outside 0,1 s ... 30 h	8214/121-2-S04/0,1 s-30 h-□ V-□ Hz	4,7
		outside 0,2 s ... 60 h	8214/121-2-S04/0,2 s-60 h-□ V-□ Hz	4,7
	drop-out delayed	outside 0,1 s ... 30 h	8214/121-2-S02/0,1 s-30 h-□ V-□ Hz	4,7
		outside 0,2 s ... 60 h	8214/121-2-S02/0,2 s-60 h-□ V-□ Hz	4,7

Add. to ordering code: Voltage and frequency possible 24 V, 42 V, 125 V, 230 V, 50 or 60 Hz

STAHL

Dimensions, all dimensions in mm – subject to alteration



Time relay, 8214/121-2-S..

Panel cutout