

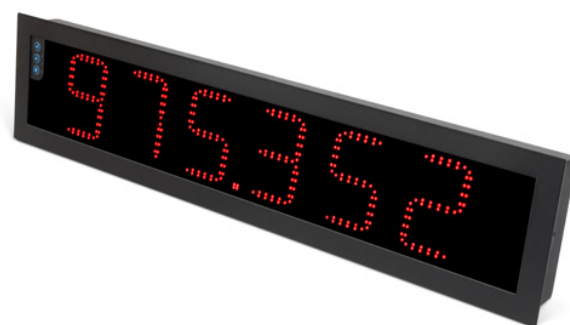
# B46-C1 Impulse counter, Ratemeter



Large format meter with 6 digits and 100mm digit height, for reading up to 50 meters for industrial applications. Impulse counter, ratemeter and periodmeter functions. Versatile and configurable instrument, accepts all type of impulse signals and encoders. Provides excitation voltage to power-up the sensor. Front keypad for easy access to the configuration menu and connection for remote keypad. Two universal high and low power supply options for AC and DC. Optional output and control modules for relay output, transistor output, SSR control, analog output retransmission and communications for Modbus RTU and RS-485 ASCII protocols. Sturdy metallic housing with full IP65 protection, for panel mount, wall mount or hanging mount.

## Technical specifications

<b>Reading</b>	
Digits	6
Reading	999999 / -199999
Decimal point	configurable
Led color	red or green
Digit height	100 mm
Type of digit	7 segment
Angle of vision	120°
<b>Input signal</b>	
Signals accepted	NPN, PNP, Namur, pick-up, TTL, inductive, mechanical, quadrature, ...
Excitation voltage	+5 Vdc, +9 Vdc, +15 Vdc, +18 Vdc (max. 70 mA)
Maximum Vdc at input terminals	±30 Vdc
Quartz accuracy	±0.01 %
Thermal stability	20 ppm/°C
Display refresh	15 refresh / second
Maximum frequencies	counter up to 250 KHz ratemeter and periodmeter up to 500 KHz
Minimum frequencies	ratemeter and periodmeter down to 1 mHz (0.001 Hz)
Signal wire diameter	max. 0.5 mm <sup>2</sup>
<b>Outputs and configuration</b>	
Output and control options	relays, analog output, serial communications, ...
Configuration	3 button front keypad (connection for remote keypad)
<b>Power</b>	
Power 'H'	85 to 265 Vac and 120 to 370 Vdc (isolated 2500 Vac)
Power 'L'	11 to 36 Vdc (isolated 1500 Vdc)
Consumption	<5.5 W (meter only) <7.0 W (meter with options)
Power wire diameter	max. 2.5 mm <sup>2</sup>
<b>Mechanical</b>	
Housing	metallic (textured black painted iron)
Front filter	methacrylate
IP protection	full IP65 housing
Connections	cable gland output internal plug-in screw terminals
Weight	<4500 grams
Mounting	panel, wall, hanging
Front size	740 x 166 mm
Panel cut-out	722 x 148 mm
Deep	80 mm (including terminals)
Operating temperature	0 to 50 °C
Storage temperature	-20 to 70 °C



Front view

## Order reference

Format	Model	Power	Color	Option 1	Option 2	Option 3	Custom
B46	C1	H	R				
		-H (85-265 Vac and 120-370 Vdc) -L (11-36 Vdc)	-R (red led) -G (green led)	-R1 (1 relay output) -AO (analog output) -RTU (Modbus RTU) -S4 (RS-485) -S2 (RS-232) -T1 (1 transistor output) -SSR (1 SSR control output) -0 (empty)			



Rear view

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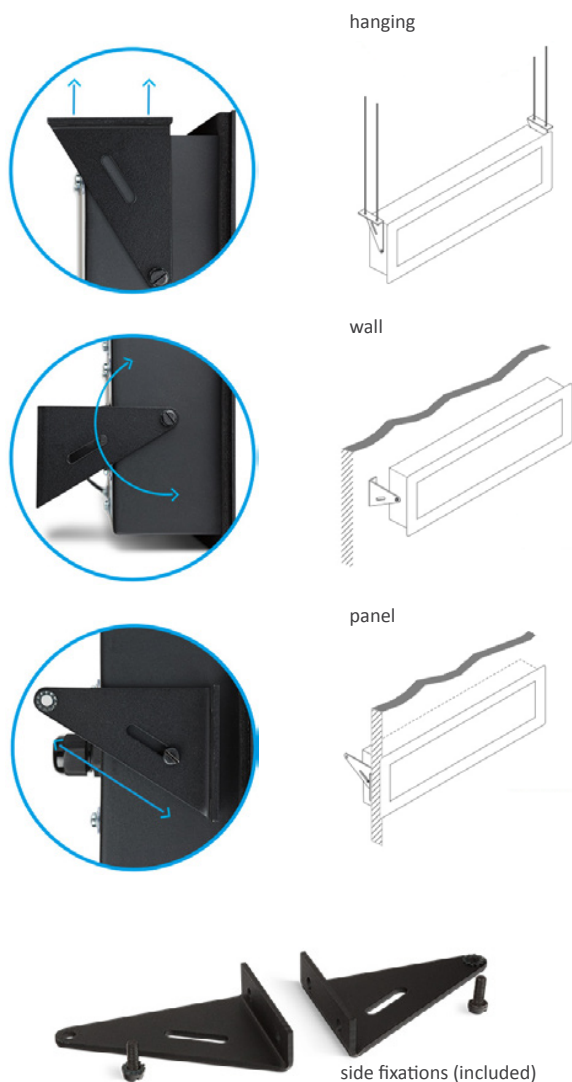
Sales: +44 (0) 1273 570 220 Website: [www.amplicon.com](http://www.amplicon.com) Email: [sales@amplicon.com](mailto:sales@amplicon.com)

## Output and control options

Format	Model	Power	Color	Option 1	Option 2	Option 3	Custom
B46	C1	H	R				

	Function	Installable options	Isolation
R1	1 relay output	2	yes
T1	1 transistor output	2	yes
SSR	1 control for SSR relay	2	yes
AO	1 analog output	2	yes
RTU	1 Modbus RTU port	2	yes
S4	1 RS-485 port	2	yes
S2	1 RS-232 port	2	yes

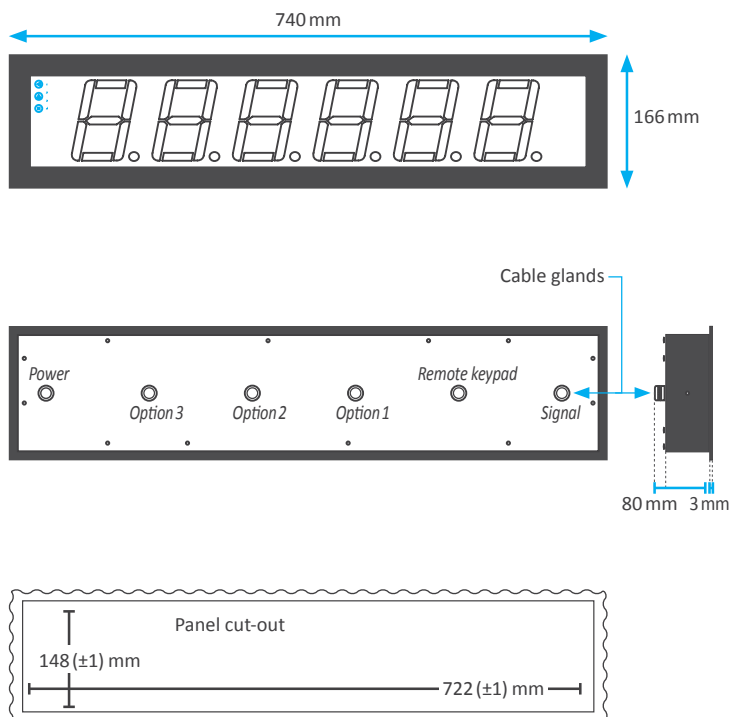
## Mounting options



## Functions included

- 'Fast access' menu . . . . . a single press on the front keypad gives access to alarm setpoint modification, preset, memories, ...
- Function 'SLOW' . . . . . special mode for low frequency ratemeter applications
- Function 'FAST' . . . . . special mode for high frequency counter applications
- Scaling factor . . . . . multiplier and divider from 1 to 999999
- Configurable reset. . . . . remote, front and linked to alarm activation
- Preset. . . . . configurable
- Trigger level. . . . . configurable
- Function 'Trigger Sense' . . . . . help on setting the correct trigger level
- Sensor selection . . . . . by menu
- Cycle counter . . . . . count of cycles defined by the 'on alarm reset' function
- Retention memory. . . . . recovers the counting value in case of power loss
- 'On power-up' function . . . . . protects systems at cold start-up.
- Alarms . . . . . with one or two setpoints, independent activation and deactivation delays, hysteresis, optional manual deactivation of the relay.
- Inverted relay . . . . . for security applications
- Display filters. . . . . recursive filters for unstable signals
- Brightness . . . . . 5 levels of brightness intensity.
- Memory . . . . . maximum, minimum, cycles, ...
- Password . . . . . blocks access to configuration menu.

## Dimensions



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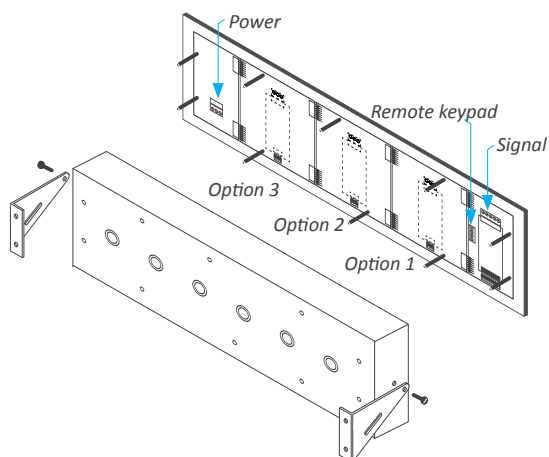
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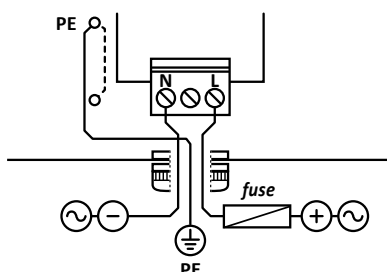
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## Connections

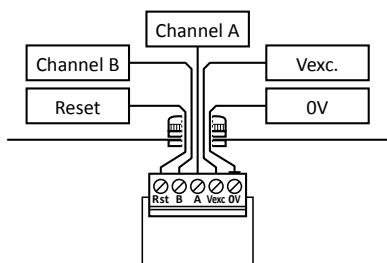
Internal structure for a B26 instrument



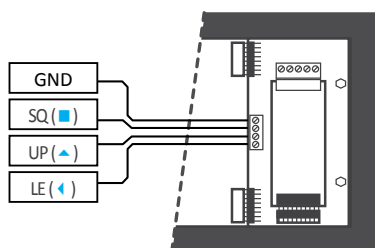
Power connections



Signal connections

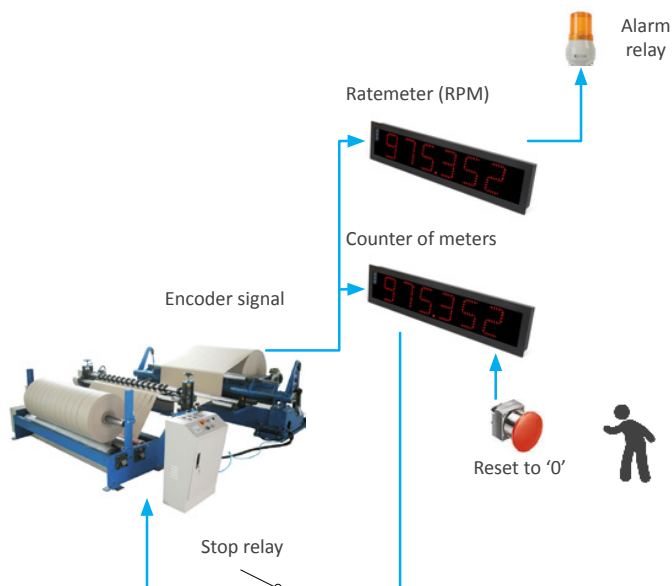


Connections for remote keypad



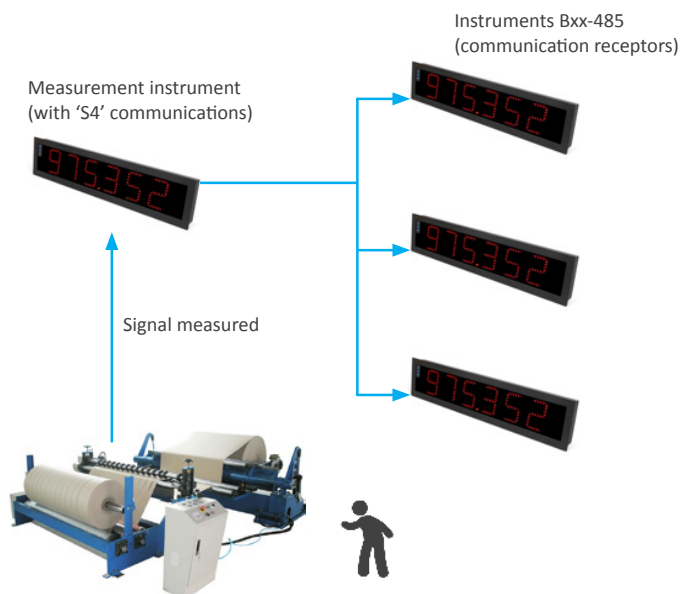
## Example of application with control

Reading of the total meters of paper processed at a paper mill, from a bidirectional encoder signal. Operator has a manual reset control to set the counter to '0' at start. A relay output stops the mill when the total desired meters has been reached. A second meter, configured as ratemeter, reads the actual RPM speed of the roller. A relay output controls an alarm signal in case of excessive speed



## One measure, multiple information points

The large format meters from Series B can measure a wide variety of signals, and can integrate multiple output and control options. Option 'S4' for communications can be configured to transmit the measure directly to remote information points.



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## Other options

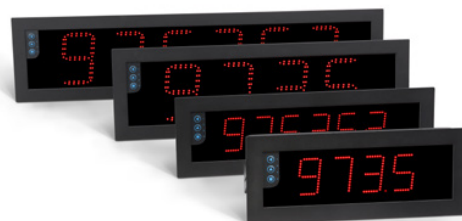
**Red color**  
  
 Red leds

**Green color**  
  
 Green leds

**White color**  
  
 White leds

**Cable output**  
  
 Preinstalled cable, 2 meters

## Others formats within the Series B



	Digit height	Digits	Reading distance
<b>Format B24</b>	60 mm	4	up to 25 meters
<b>Format B26</b>	60 mm	6	up to 25 meters
<b>Format B44</b>	100 mm	4	up to 50 meters
<b>Format B46</b>	100 mm	6	up to 50 meters

## Accessories

**RKB**  
  
 Remote keypad

**IPB24**  
  
 IP65 protection for the B24 panel junction

**IPB26**  
  
 IP65 protection for the B26 panel junction

**IPB44**  
  
 IP65 protection for the B44 panel junction

**IPB46**  
  
 IP65 protection for the B46 panel junction

## Other Counters and Ratemeters

### Series M

4, 5 and 6 digits

digit height ..... 14 mm  
 color ..... red, green  
 vision ..... 5 meters  
 size ..... 96 x 48 mm

DIGITAL PANEL METER  
**SERIES M**  
 Full Signal Ranges Available



### Series K

Further view

digit height ..... 20 mm  
 color ..... red  
 vision ..... 8 meters  
 size ..... 96 x 48 mm

DIGITAL PANEL METERS  
**SERIES K**  
 20 mm Digit Size



### Series S

Compact size

digit height ..... 14 mm  
 color ..... red, green  
 vision ..... 5 meters  
 size ..... 72 x 36 mm

DIGITAL PANEL METERS  
**SERIES S**  
 Compact Size 72x36 mm



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