

B24-CR Chronometer



Large format meter with 4 digits and 60 mm digit height, for reading up to 25 meters for industrial applications. Chronometer and time counter functions. Versatile and configurable instrument, with controls for start, stop and reset, with up and down counting, and multiple reading formats. 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

Reading

Digits	4
Reading	9999 / -1999
Decimal point	configurable
Led color	red or green
Digit height	60 mm
Type of digit	7 segment
Angle of vision	120°

Time counter

Reading formats (s=sec., m=min., h=hour, d=day)	'mm.ss' 'hh.mm' 'dd.hh' 'ssss' 'sss.s' 'ss.ss' 'mmmm' 'mmm.m' 'mm.mm' 'hhhh' 'hhh.h' 'hh.hh'
Counting direction	up, down
Controls	start, stop, reset
Control activation	free potential contact (by default) and configurable for push-pull, NPN, PNP, inductive, ...

Maximum Vdc at input terminals	±30 Vdc
Reset control	remote, front reset and linked to alarm
Accuracy	100 ppm
Display refresh	12 refresh / second
Reading memory	maintains in case of power loss
Signal wire diameter	max. 0.5 mm ²

Outputs and configuration

Output and control options	relays, analog output, serial communications, ...
Configuration	3 button front keypad (connection for remote keypad)

Power

Power 'H'	85 to 265 Vac and 120 to 370 Vdc (isolated 2500 Vac)
Power 'L'	11 to 36 Vdc (isolated 1500 Vdc)
Consumption	<3.0 W (meter only) <5.0 W (meter with options)
Power wire diameter	max. 2.5 mm ²

Mechanical

Housing	metallic (textured black painted iron)
Front filter	methacrylate
IP protection	full IP65 housing
Connections	cable gland output internal plug-in screw terminals
Weight	<2200 grams
Mounting	panel, wall, hanging
Front size	340 x 135 mm
Panel cut-out	322 x 117 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
B24	CR	H	R				
		-H (85-265 Vac and 120-370Vdc) -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)			

* Option 3 available with formats B26 and B46



Rear view

Additional documentation

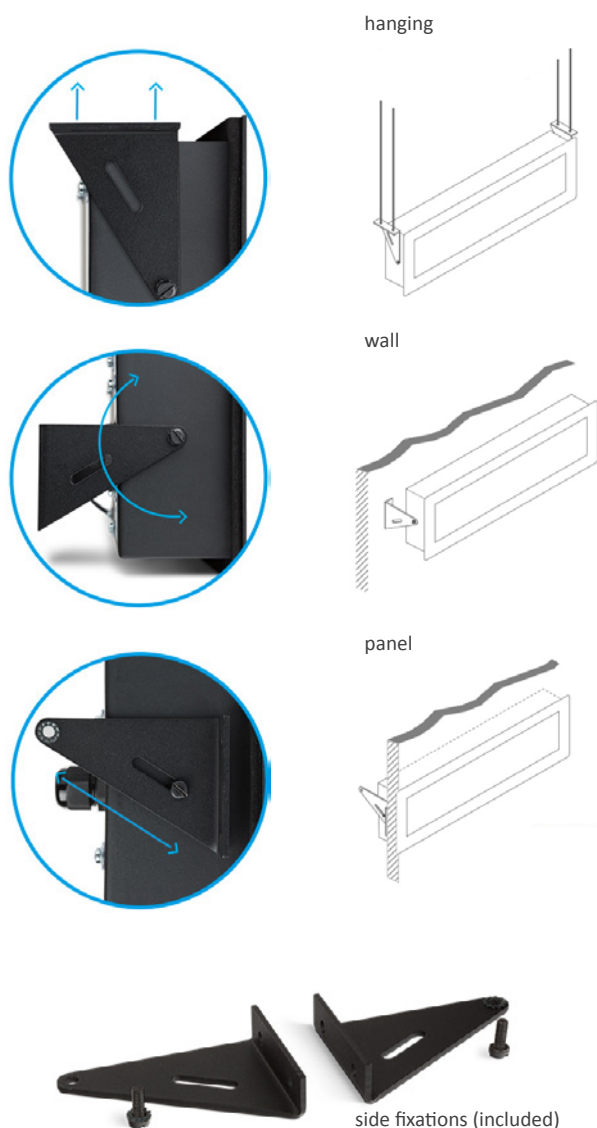
Bxx-CR user's manual	www.fema.es/docs/4384_Bxx-CR_manual_en.pdf
Series B options	www.fema.es/docs/4326_SERIES-B_OPTIONS_manual_en.pdf
Series B web page	www.fema.es/Series_B

Output and control options

Format	Model	Power	Color	Option 1	Option 2	Option 3	Custom
B24	CR	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
Option 3 available with formats B26 and B46			

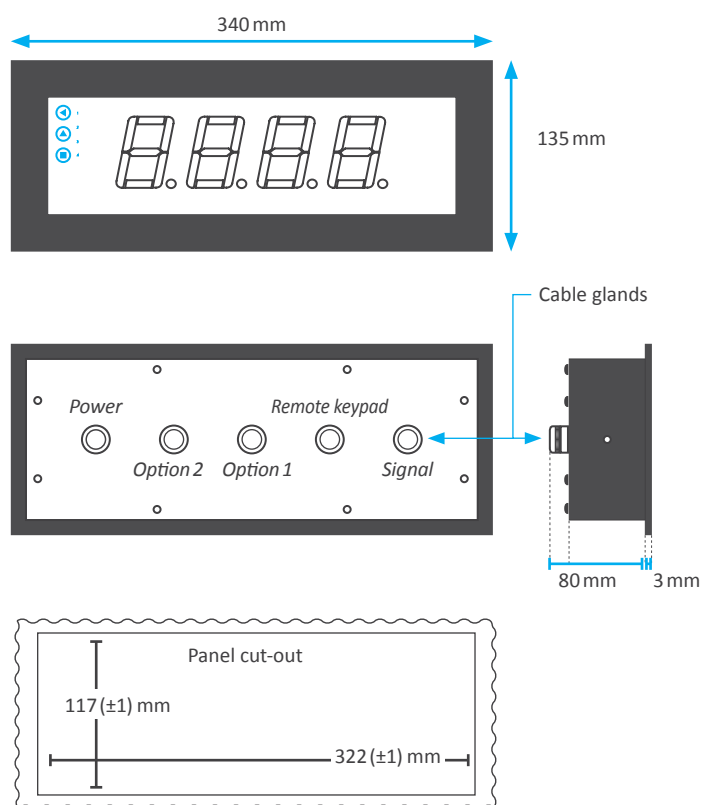
Mounting options



Functions included

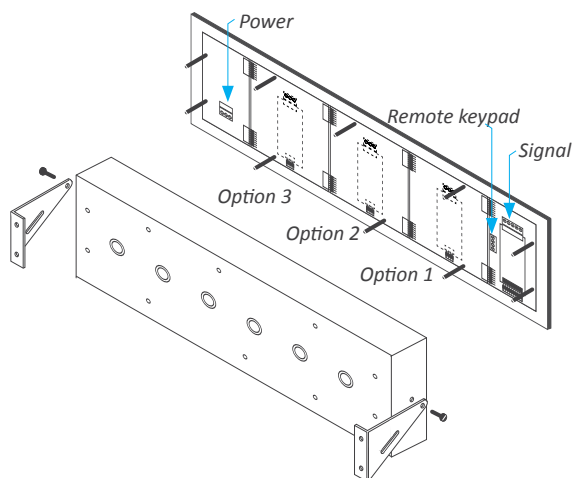
- 'Fast access' menu a single press on the front keypad gives access to alarm setpoint modification, preset, memories, ...
- Reading 12 different reading modes
- Counting direction up, down
- Configurable reset front and rear reset, and reset linked to alarm activation
- Preset configurable
- Retention memory recovers the counting value in case of power loss
- Special modes control for 'up' or 'down' counting, control for 'hold' counting, second counter for cycles, second counter for total counting time, second counter for exceeded time counting, memory of longest and shortest cycles.
- '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
- Brightness 5 levels of brightness intensity.
- Memory maximum, minimum, cycles, ...
- Password blocks access to configuration menu.

Dimensions

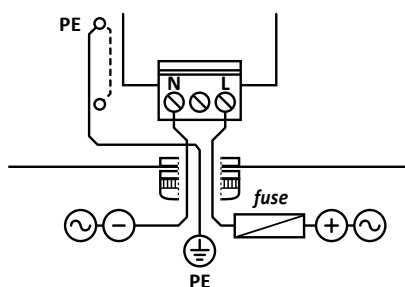


Connections

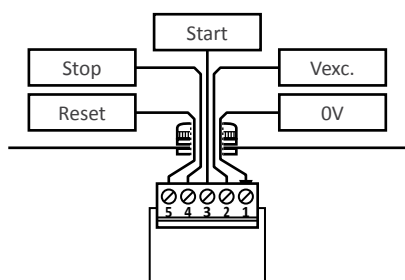
Internal structure for a B26 instrument



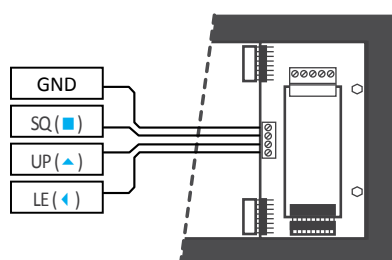
Power connections



Signal connections

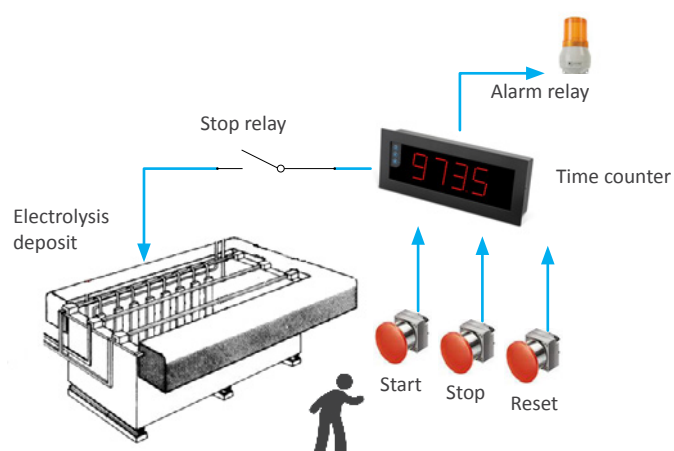


Connections for remote keypad



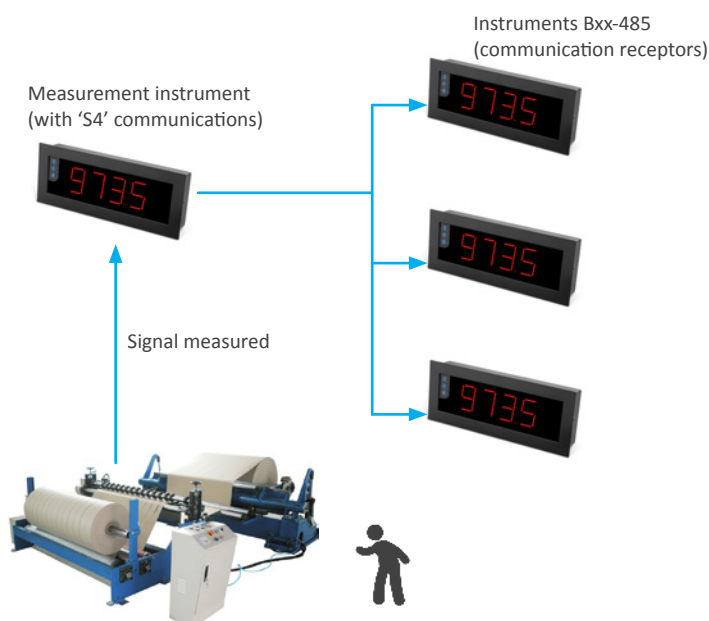
Example of application with control

Reading and control of the total electrolysis time applied to a chemical process. The operator configures the duration time for the treatment and the instrument activates a relay when the configured time is over. The operator controls the reset to '0' and the start of the counting. The special mode 'exceeded time' shows the accumulated time since the alarm was activated. The special mode 'total time' provides information on the total electrolysis times applied since last reset, useful to control the maintenance times for the electrolysis machine.



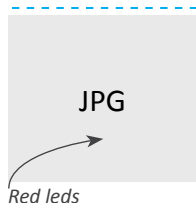
One measure, multiple information points

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.

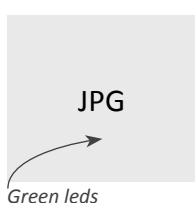


Other options

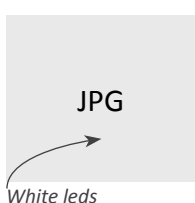
Red color



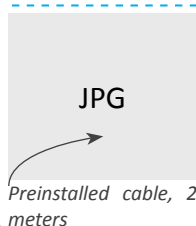
Green color



White color

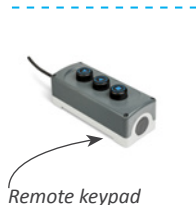


Cable output

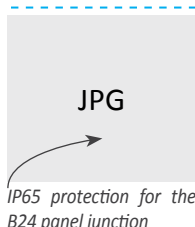


Accessories

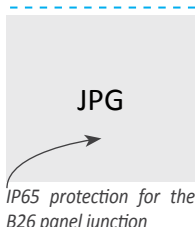
RKB



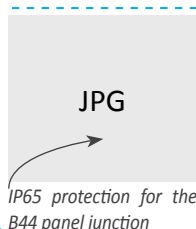
IPB24



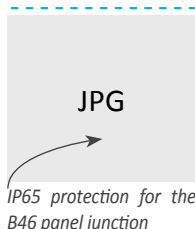
IPB26



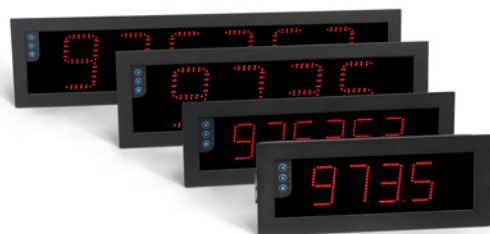
IPB44



IPB46



Others formats within the Series B



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

Other chronometers and time counters

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

