

The BA517E is a third generation general purpose tachometer that has similar functions as the BA518E, but is housed in a smaller 96 x 48mm DIN enclosure. The tachometer is easy to use and can be configured on-site to operate with a magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse sensor. A slide-in scale card can be supplied printed with units of measurement, or can easily be marked on-site.

Main application of the BA517E is to measure and display rotational speed within a process area. To assist with routine maintenance the BA517E tachometer also includes a run-time clock that records the number of hours that the monitored machinery has been operating.

The display has high contrast and a wide viewing angle, allowing the tachometer to be read in most lighting conditions over a wide temperature range. Speed may be displayed in almost any units of measurement per second, minute or hour. Run-time is shown on the lower display in hours with a tenth of an hour resolution. If not required, the run-time display may be disabled.

Display backlighting which is internally powered from the tachometer is available as a factory fitted option. It provides green background illumination enhancing daylight viewing and allowing the display to be easily read at night or when installed in a poorly illuminated area.

IP66 front panel protection with a neoprene gasket to seal the joint between the tachometer and the instrument panel allow the BA517E to be installed in areas that will be washed down. To simplify installation and maintenance, the tachometer has removable terminal

blocks enabling panel wiring to be completed before the instrument is installed.

One of the following three optional outputs may be factory fitted to the BA517E tachometer. All are isolated.

Optional open collector pulse output synchronously retransmits the tachometer input pulse to other instruments. The output pulse frequency may be divided and the pulse width may be defined.

Optional 4/20mA current sink may be configured to produce an analogue output proportional to any part of the speed display.

Optional dual alarms which can switch loads such as a sounder or solenoid valve. The two galvanically isolated, solid state voltage free outputs may be independently configured as speed or run-time alarms with normally open or closed outputs. Annunciators on the BA517E display show the status of both alarm outputs.

A larger display and rugged version are available in other models within the range. The BA518E has the same functions as the BA517E with a larger display in a 144 x 72mm enclosure. For application in marine and hostile environments the rugged BA517E-SS, which has the same functions as the BA517E, is housed in a rugged stainless steel enclosure with a 10mm thick window.

For applications in flammable atmospheres the BA317E, which is identical to the BA517E, has international intrinsic safety certification. For lower risk installations in Zone 2 and Zone 22, the rugged BA317NE has Ex nA and Ex tc approval allowing use without Zener barriers or galvanic isolators.

BA517E

One input tachometer

General purpose

- ◆ **Configurable input:** magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse.
- ◆ **Separate speed and run-time displays.**
- ◆ **96 x 48mm DIN enclosure with IP66 front protection.**
- ◆ **Simple on-site scale card installation.**
- ◆ **Optional:**
Backlight
dual alarms
or 4/20mA output
or pulse output
- ◆ **3 year guarantee**

BEKA
associates

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SPECIFICATION

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Power supply

Voltage	10 to 30V dc	
Current	16mA max plus 22.5mA for optional backlight	

Input

	Lower	Upper	switching thresholds
Switch contact	100Ω	1kΩ	
Proximity detector (NAMUR)	1.2mA	2.1mA	
Open collector	2kΩ	10kΩ	
Magnetic pick-off	0	+40mV	
Voltage pulse (low)	1V	3V	30V max
Voltage pulse (high)	3V	10V	30V max

Frequency

Switch contact	150Hz typical	} Depends upon pulse width and debounce setting.
Other inputs	100kHz max	
All inputs	0.01Hz min	

Display

Type	Liquid crystal
Zero blanking	Blanked apart from 0 in front of decimal point

Speed

Decimal point	8 digits 9mm high 1 of 7 positions or absent
Run-time	6 digits 6mm high 99999.9hours max

Grand total run-time

5 x 10⁶ hours max

Remote reset

Contact closure with resistance less than 10kΩ

Configurable functions

Speed scale factor	Adjustable between 0.0001 and 99999 input pulses / revolution.
Speed timebase	Speed may be displayed per second, minute or hour.

Environmental

Operating temp	-40 to +70°C display -20 to +70°C
Storage temp	-40 to +85°C
Humidity	To 95% at 40°C non condensing
Vibration	Report available

Enclosure

Material	Noryl SE1GFN3
Protection	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU

Mechanical

Terminals	Screw clamp for 0.5 to 1.5mm ² cable, removable
Weight	0.15kg

Accessories

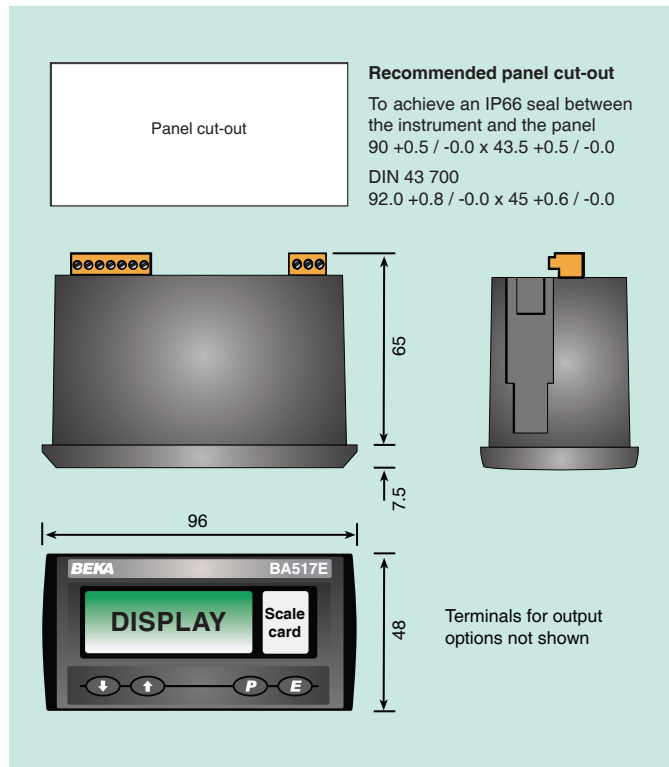
Backlight	Green LED internally powered
Scale card	Blank card fitted to all instruments. Can be supplied printed with specified units of measurement for no additional charge at time of tachometer purchase. #
Tag legend	Specified tag number or application printed onto rear of instrument. #
BA495 rear cover and sealing kit	Provides impact and IP66 protection for rear of instrument. #

One of the following three output accessories may be factory fitted to each tachometer, all have isolated outputs.

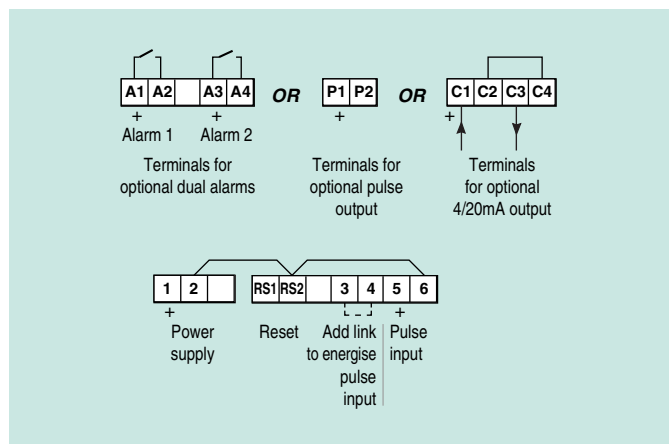
Pulse output	Isolated open collector
Frequency	5kHz max, synchronous with input pulse or
Divisible by	1, 10, 100, 1000 or 10000
Pulse width	0.1, 0.5, 1, 2.5, 5, 10, 25, 50, 100, 250 or 500ms
Ron	51Ω + 3V max
Roff	1MΩ min
I max	10mA
4/20mA output	Isolated current sink
Voltage drop	5 to 30V
Alarms	Two alarms each of which may be independently configured as a speed or run-time, high or low alarm with a NO or NC output.
Outputs	Isolated single pole, voltage free solid state switch.
Ron	5Ω + 0.7V max
Roff	1MΩ min
Vmax	30V dc
I max	200mA

See accessory datasheet for details

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

Model number	Please specify
Input	BA517E
	Type *
Speed scale factor	XXXXX *
Speed timebase	Seconds, minutes or hours*
Accessories	Please specify if required
Display backlight	Backlight
Scale card	Legend required
	No charge if ordered with tachometer
Tag	Legend required
One of following three output options:	
Pulse output	Direct retransmission or scaled*
or 4/20mA output	4/20mA output
or Dual alarms	Alarms
Rear cover and sealing kit	BA495

* Tachometer can be supplied configured as required for no additional charge. If configuration information is not supplied, instrument will be configured for open collector input with speed scaling factor of 1.0 and a timebase of minutes. Can easily be reconfigured on-site.