Proximity detector, magnetic pick-off, voltage pulse, switch contact or open collector sensors

Isolated pulse output

Power 24V dc

Shown with optional backlight

BA514G
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.**

◆ **IP66 GRP enclosure**

◆ **Isolated pulse output**

◆ **Simple on-site scale card installation.**

◆ **Optional:**
   Backlight
   Dual alarms
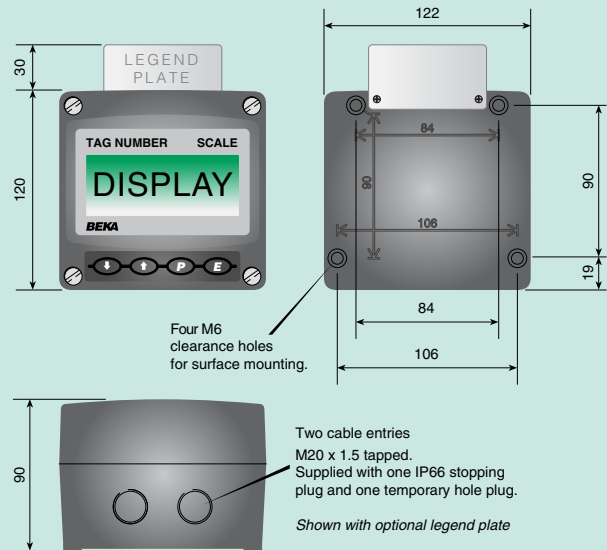   **4/20mA output**

◆ **3 year guarantee**

   www.beka.co.uk/ba514g

The BA514G is a third generation, general purpose field mounting tachometer housed in a compact IP66 GRP 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 a voltage pulse sensor.

Main application of the BA514G is to measure and display rotational speed within a process area. To assist with routine maintenance the BA514G tachometer includes a run-time clock that records the number of hours that the monitored machinery has been operating.

The large display has high contrast with a wide viewing angle, enabling 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 can 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 tachometer to be easily read at night or when installed in a poorly illuminated area.

IP66 protection is provided by the robust GRP enclosure which has stainless steel fittings, a silicone gasket and an 8mm thick armoured glass window. Ingress and impact protection have been independently assessed by Intertek.

The scale card which shows the tachometer's units of measurement and tag information slides into an internal slot allowing easy on-site removal and marking. New instruments are fitted with a printed scale card showing customer specified information, if this information is not supplied a blank card is fitted which can easily be marked on-site. For application requiring external marking an optional stainless steel legend plate is available which can be supplied engraved with customer specified information.

The isolated open collector pulse output can synchronously retransmit the tachometer's input pulse to other instruments. The retransmitted output pulse frequency may be divided and the output pulse width may be defined.

A 4/20mA isolated current sink output, which is available as a factory fitted option, may be configured to produce an output proportional to any part of the speed display.

Optional dual alarms can switch loads such as a sounder or a solenoid valve. The two galvanically isolated, solid state voltage free outputs may be independently conditioned as speed or run-time alarms with normally open or closed outputs. Annunciators on the BA514G display show the status of both alarm outputs.

Panel mounting tachometers with a variety of display and enclosure sizes are also available, see BA517E, BA517E-SS and BA518E. Certified field and panel mounting models are also available for hazardous area applications

BEKA
associates

SPECIFICATION

Power supply
Voltage	10 to 30V dc
Current	16mA max plus 16mA 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*
Other inputs	100kHz max ⎦ *and debounce setting.*
All inputs	0.01Hz min

Display
Type	Liquid crystal
Zero blanking	Blanked apart from 0 in front of decimal point
Speed	8 digits 18mm high
Decimal point	1 of 7 positions or absent
Run-time	6 digits 12mm high, 99999.9 hours max.
Grand total run-time	5×10^6 hours max

Remote reset   Contact closure with resistance less than 10kΩ

Pulse output   Isolated open collector
Frequency	5kHz max, synchronous with input pulse, or divisible with selectable pulse width.
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
Vmax	30V dc
I max	10mA

Configurable functions
Speed scale factor	Adjustable between 0.0001 and 99999 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	GRP
Ingress	IP66
EMC	Complies with 2014/30/EU

Mechanical
Terminals	Screw clamp for 0.5 to 1.5mm²
Weight	1.1kg

Accessories
Backlight	Green LED internally powered
4/20mA output	Isolated current sink
Voltage drop	5 to 30V
Dual 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	IMΩ min
Vmax	30V dc
Imax	200mA
Scale card	Blank card fitted to all instruments. Can be supplied printed with specified units of measurement and tag information for no additional charge at time of purchase. #
Legend plate	Stainless steel plate laser engraved with tag number or application information attached to rear of the instrument, visible from the front. #

DIMENSIONS (mm)

Four M6 clearance holes for surface mounting.

Two cable entries M20 x 1.5 tapped. Supplied with one IP66 stopping plug and one temporary hole plug.

Shown with optional legend plate

TERMINAL CONNECTIONS
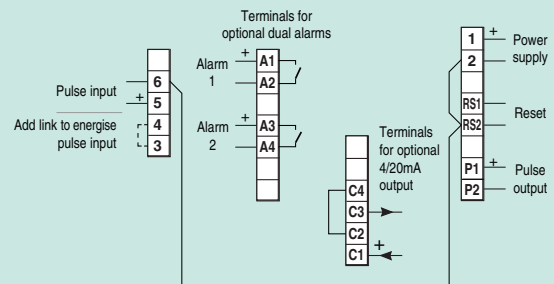
Pipe mounting kit	BA393G 316 stainless steel #
Panel mounting kits	BA394G 316 stainless steel not sealing #
	BA494G GRP sealing #

\# See accessory datasheet for details

HOW TO ORDER

	Please specify
Model number	BA514G
Input	Type *
Speed scale factor	XXXXX *
Speed timebase	Seconds, minutes or hours*

Accessories	**Please specify if required**
Display backlight	Backlight
4/20mA output	4/20mA output
Dual alarms	Alarms
Scale card marking	
Units	Legend required
Tag	Legend required
	No charge if ordered with tachometer
Stainless legend plate	Legend required
Pipe mounting kit	BA393G
Panel mounting kit	BA394G or BA494G

* 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 seconds with direct pulse retransmission.   Can easily be reconfigured on-site.