

The **BA578E** is a two input general purpose instrument that may be configured as a Timer or as a Clock. As a Timer it is able to measure and display the elapsed time between external events, or control external events via the status and control outputs. When configured as a Clock the instrument can display time in a variety of formats. The BA578E is controlled by two inputs which may be independently configured on-site to operate with a magnetic pick-off, switch contact, proximity detector, open collector or a voltage output sensor.

Configuration may be performed on-site via the front panel push buttons using the easy to use and well documented menus. The Timer employs a state and event structure to simplify configuration. The BA578E can be supplied configured to customers requirements including a customer defined printed scale card for no additional charge.

Applications as a Timer include displaying the time interval between two events detected by one or two sensors such as 2-wire proximity detectors. The Timer can control an external event using the isolated open collector status output, or the dual isolated control outputs. The Timer is able to perform common industrial timing application such as those associated with dosing or sampling where a solenoid valve is required to be regularly opened for a defined time. The Timer includes a powerful cycle function which can be configured to repeat the timing function up to 99 times or continuously, with up to 100 hours delay between timed periods.

As a Clock local time can be displayed in various twelve or twenty four hour formats and the display may be synchronised to a pre-set time via the external reset input. Control outputs may be configured to switch loads on or off at pre-set times twice during each twenty four hour period.

The **display** has high contrast and a wide viewing angle, enabling the instrument to be read in most lighting conditions over a wide temperature range.

Display backlighting which is internally powered, 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 instrument and the instrument panel allows the BA578E to be installed in areas that will be washed down.

Control outputs can switch process area loads such as a sounder or solenoid valve. The two galvanically isolated, solid state voltage free outputs may be independently configured with normally open or closed outputs. Annunciators on the BA578E display show the status of both control outputs.

When panel space is limited the BA577E single input Timer or Clock provides similar features in a smaller 96 x 48mm DIN enclosure. For installations in marine or hostile environments the BA577E-SS is functionally identical to the BA577E but has a rugged stainless steel enclosure with a 10mm thick window.

For applications in flammable atmospheres the BA378E, which is functionally identical to the BA578E, has international intrinsic safety certification. The one input BA377E also has intrinsic safety certification and the rugged BA377NE has Ex nA and Ex tc allowing installation in Zones 2 or 22 without Zener barriers or galvanic isolators.

BA578E

Two input timer or clock

General purpose

- ◆ May be configured as a Timer or as a Clock.
- ◆ Configurable inputs: magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse.
- ◆ Dual control outputs
- ◆ Two Separate displays
- ◆ 144 x 72mm DIN enclosure with IP66 front protection.
- ◆ Isolated status output
- ◆ Optional: Backlight
- ◆ 3 year guarantee

www.beka.co.uk/ba578e

BEKA

associates

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SPECIFICATION

Power supply

Voltage	10 to 30V dc
Current	22mA max plus 16mA for the optional backlight.

Input A & b

	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

Control outputs

Two outputs each of which may be independently configured as a NO or NC output.

Outputs	Isolated single pole, voltage free solid state switch.
Ron	5Ω + 0.7V max
Roff	1MΩ min
V max	30V dc
I max	200mA

Display

Type	Liquid crystal
Primary	18mm high
Secondary	12mm high
Format	hh:mm:ss ; hh:mm ; mm:ss or s

Remote Timer reset & Clock sync.

Contact closure with resistance less than 10kΩ

Timer

Status output	Isolated, voltage free, open collector
Ron	51Ω + 3V max
Roff	1MΩ min
I max	10mA

Maximum duration 99h 59m and 59s or equivalent in any display format.

Maximum delay between cycles. 99h 59m and 59s or equivalent in any display format.

Grand total run-time 5 x 10⁶ hours maximum

Clock

Timekeeping accuracy. Less than ±0.43s error per day over full operating temperature range.

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
Ingress	Front IP66, rear IP20
EMC	Complies with EMC Directive 2014/30/EU

Mechanical

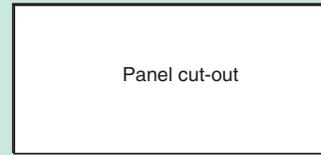
Terminals	Screw clamp for 0.5 to 1.5mm ² cable, removable.
Weight	0.35kg

Accessories

Backlight	Green LED internally powered
Scale card	Blank card fitted to all instruments. Can be supplied printed with specified units of time for no additional charge at time of purchase. ~
Tag legend	Specified tag number or application printed onto rear of instrument. ~

~ See accessory datasheet for details

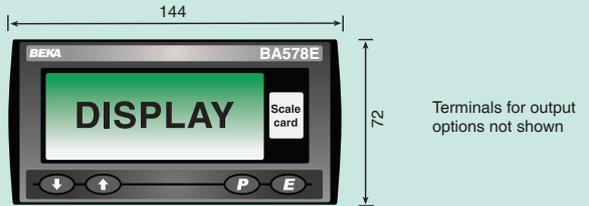
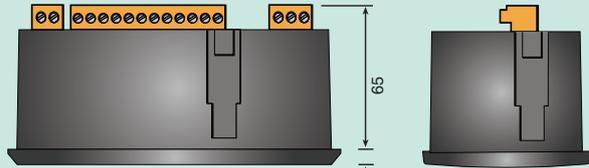
DIMENSIONS (mm)



Recommended panel cut-out

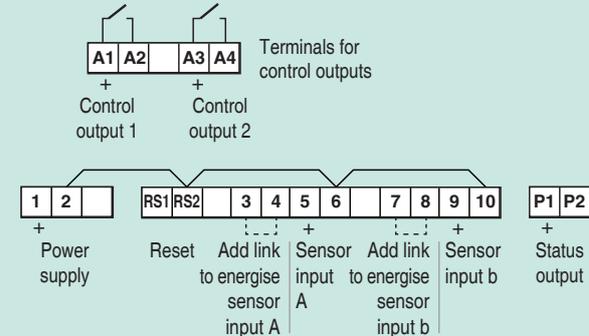
To achieve an IP66 seal between the instrument and the panel 136.0 +0.5/-0.0 x 66.2 +0.5/-0.0 Four panel mounting clips must be used

DIN 43 700
138.0 +1.0/-0.0 x 68.0 +0.7/-0.0



Terminals for output options not shown

TERMINAL CONNECTIONS



HOW TO ORDER

Model number
Function
Input

Please specify

BA578E
Timer or Clock
Type for each input *

Accessories
Display backlight
Scale card
Tag

Please specify if required

Backlight
Legend required
No charge if ordered with instrument
Legend required

* BA578E can be supplied configured as required for no additional charge, see instruction manual, which can be downloaded from www.beka.co.uk/ba578e for details. If configuration information is not supplied, instrument will be configured as a Timer with an open collector input. Can easily be reconfigured on-site.