1. DESCRIPTION

The BA577E is a general purpose, panel mounting instrument with a single input that can be configured as a Timer or as a Clock. As a Timer the BA577E is able to measure and display the elapsed time between external events, or control external events via two control outputs. When configured as a Clock the BA577E displays local time and the control outputs can turn *on* and *off* twice in each twenty four hour period.

An optional internally powered green display backlight is available as a factory fitted option. If required this must be specified when the instrument is ordered.

This abbreviated instruction sheet is intended to assist with installation, a comprehensive instruction manual describing system design and configuration may be downloaded from the BEKA website or may be requested from the BEKA sales office.
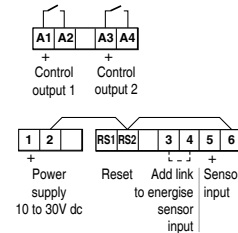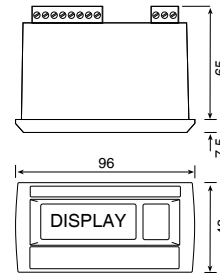
2. INSTALLATION

The BA577E has IP66 front of panel protection but it should be shielded from direct sunlight and severe weather conditions. The rear of the instrument has IP20 protection.

Cut-out dimensions

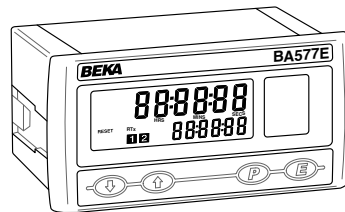Recommended for all installations. Mandatory to achieve IP66 seal between instrument and panel.

90 +0.5/-0.0 x 43.5 +0.5/-0.0

Support panel wiring to prevent vibration damage
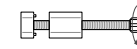
Fig 1 Cut-out dimensions and terminals

Abbreviated instructions for

BA577E One input general purpose Timer or Clock

1. Align foot and body of panel mounting clamp by turning screw anticlockwise

2. Position gasket behind instrument bezel

3. Insert instrument into the panel from the front

4. Insert panel clamp into recess and gently pull it onto the dovetail. Engage screw & turn clockwise to tighten the clamp, fit the other clamp(s). Recommended tightening torque 22cNm (1.95lbf.in) Equivalent to finger tight plus one half turn. DO NOT OVERTIGHTEN
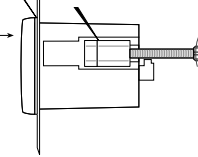

Fig 2 Installation procedure

EMC

For specified immunity all wiring should be in screened twisted pairs with screens earthed at one point.

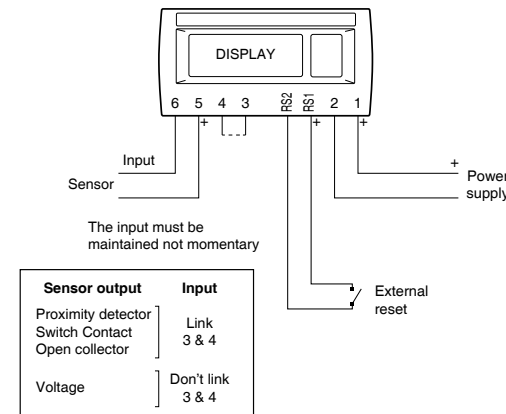| Sensor output	Input
Proximity detector Switch Contact Open collector	Link 3 & 4
Voltage	Don't link 3 & 4

The input must be maintained not momentary

Fig 3 Use with Typical system

Scale card

The Timer or Clock's units of measurement are shown on a printed scale card visible through a window at the right hand side of the display. The scale card is mounted on a flexible strip that is inserted into a slot at the rear of the instrument as shown below
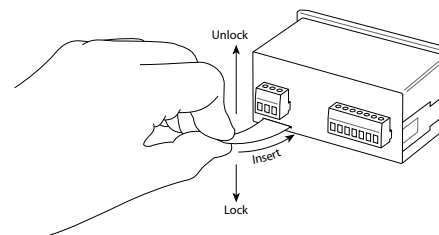

Fig 4   Inserting flexible strip carrying scale card into slot at the rear of Timer or Clock.

Thus the scale card can easily be changed without removing the Timer or Clock from the panel or opening the instrument enclosure.

New Timer or Clocks are supplied with a printed scale card showing the requested units of measurement, if this information is not supplied when the Timer or Clock is ordered a blank card will be fitted.

A pack of self-adhesive scale cards printed with common units of measurement is available as an accessory from BEKA associates. Custom printed scale cards can also be supplied.

To change a scale card, unclip the protruding end of the flexible strip by gently pushing it upwards and pulling it out of the enclosure. Peel the existing scale card from the flexible strip and replace it with a new printed card, which should be aligned as shown below. Do not fit a new scale card on top of an existing card.
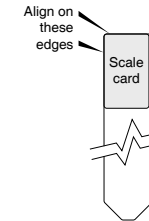
Align the self-adhesive printed scale card onto the flexible strip and insert the strip into the Timer or Clock as shown.

Fig 5 Fitting scale card to flexible strip

3. OPERATION

The Timer or Clock is controlled by four front panel push buttons. When configured as a Timer they have the following functions in the operating mode:

P + E   Access to configuration menu.

▼   When local control is enabled starts the Timer

▲   When local control is enabled stops the Timer.

E + ▲   Shows the grand total (run time) in hours and tenths of an hour irrespective of Timer configuration. If buttons are held for longer than ten seconds the grand total may be reset to zero if the grand total reset sub-function ELr Gtot is enabled in the LoC rSEt configuration function.

To reset the grand total to zero from the display mode press the E + ▲ buttons for ten seconds until ELr.no is displayed, using the ▼ or ▲ button change the display to ELr.YES and press E.

▼ + ▲   To reset the Timer to zero or to the set time SEt t depending on whether the Timer is configured to *time-up* or *time-down* press the ▼ + ▲ buttons simultaneously for more than three seconds. This is a configurable function.

P + ▲   When enabled in the configuration menu, operating these two buttons simultaneously provides direct access to the set time SEt t and allows adjustment when the timer is in the display mode.

P + ▼   Shows in succession, firmware version number, instrument function ELAPSE or CLoC, and confirms control outputs are fitted:
- A   Dual Control Outputs

See full instruction manual for description of use when configured as a Clock
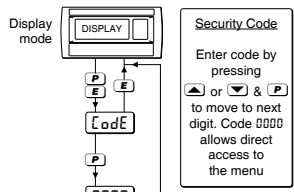
4. CONFIGURATION

Timer or Clocks are supplied configured as requested at time of ordering, if not specified default Timer configuration will be supplied but can easily be changed on-site.

Fig 6 shows the location of each function within the Timer configuration menu with a brief summary of the function. Please refer to the full instruction manual for detailed configuration information, description of optional outputs and Clock configuration menu.

Access to the configuration menu is obtained by pressing the P and E buttons simultaneously. If the Timer or Clock's security code is set to default 0000 the first parameter FunCtion will be displayed. If the instrument is protected by a security code, CodE will be displayed. The four digit code must be entered to gain access to the menu.

Display mode

DISPLAY

Security Code
Enter code by pressing ▲ or ▼ & P to move to next digit. Code 0000 allows direct access to the menu

CodE

0000

Function
▲ or ▼ to select

Function of instrument
oPCoL Open Collector
UoLt5 L Voltage <1V >3V
UoLt5 H Voltage <3V >10V
Coi L 0 < >40mV
PrdEt Proximity detector
ContACt Switch contact

ELAPSE Interval measurement
CLoC Time display

Confirm selection by entering SurE by pressing ▲ ▼ & P to move to next digit

Input
▲ or ▼ to select

Input type
oPCoL Open Collector
UoLt5 L Voltage <1V >3V
UoLt5 H Voltage <3V >10V
Coi L 0 < >40mV
PrdEt Proximity detector
ContACt Switch contact

Debounce
▲ or ▼ to select

level of debounce.

dEFAuLt
L. GHt
HEAUY

Lower Display
CYCLES not enabled

▲ or ▼ to select how timer is controlled

Std
Set time SEt t
oFF
lower display disabled

CYCLES enabled

▲ or ▼ to select display

Std
Cycle No. & total cycle with status shown at start of each operation

LAbEL
Cycle No. & total cycle with status shown periodically

oFF
lower display disabled

Start & stop timer
▲ or ▼ to select how timer is controlled

LoCAL
Start ▲ button
Stop ▲ button

Control 1
Start Input high (open)
Stop Input low (closed)

Control 2
Start Input low (closed)
Stop Input high (open)

Units of display
▲ or ▼ to select display

hours minutes seconds
12:00:00
12:00
30:00
30

Set time
▲ or ▼ to adjust value and P to move to control next digit

Enable access to Set Time from display mode
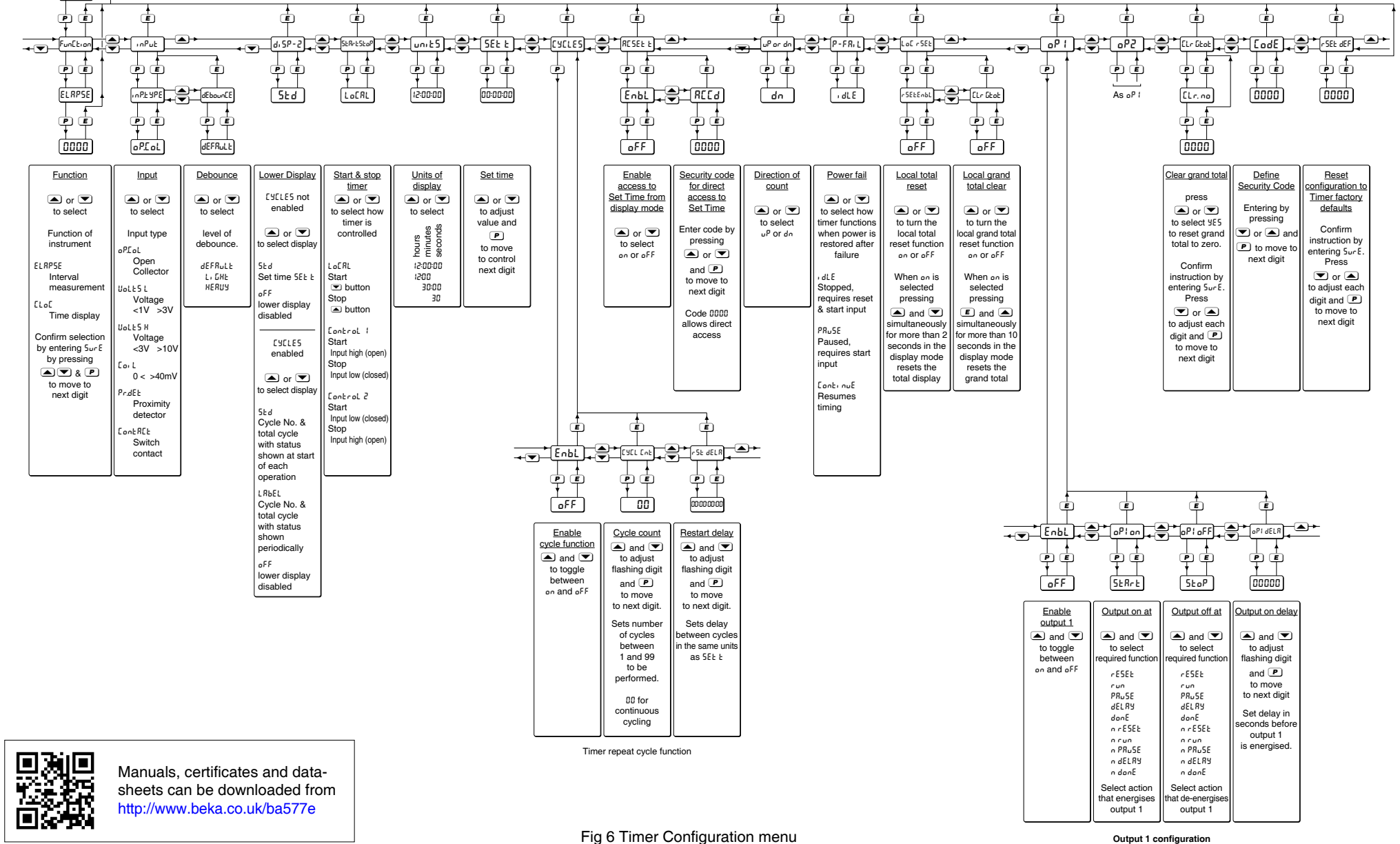▲ or ▼ to select on or oFF

Security code for direct access to Set Time
Enter code by pressing ▲ or ▼ and P to move to next digit

Code 0000 allows direct access

Direction of count
▲ or ▼ to select uP or dn

Power fail
▲ or ▼ to select how timer functions when power is restored after failure

iLE
Stopped, requires reset & start input

PAuSE
Paused, requires start input

ContinuE
Resumes timing

Local total reset
▲ or ▼ to turn the local total reset function on or oFF

When on is selected pressing ▲ and ▼ simultaneously for more than 2 seconds in the display mode resets the total display

Local grand total clear
▲ or ▼ to turn the local grand total reset function on or oFF

When on is selected pressing E and ▲ simultaneously for more than 10 seconds in the display mode resets the grand total

Clear grand total
press ▲ or ▼ to select YES to reset grand total to zero.

Confirm instruction by entering SurE. Press ▼ or ▲ to adjust each digit and P to move to next digit

Define Security Code
Entering by pressing ▲ or ▼ and P to move to next digit

Confirm instruction by entering SurE. Press ▼ or ▲ to adjust each digit and P to move to next digit

Reset configuration to Timer factory defaults
Confirm instruction by entering SurE. Press ▼ or ▲ to adjust each digit and P to move to next digit

FunCtion inPut diSP-2 StArtStoP unit5 SEt t CYCLES ACSEt t uP or dn P-FAiL LoC rSEt oP 1 oP2 CLr Gtot CodE rSEt dEF

ELAPSE inPtYPE debounCE Std LoCAL 12:00:00 00:00:00 EnbL / ACCd dn iLE rSEtEnbL / CLr Gtot As oP 1 CLr.no 0000 0000

0000 oPCoL dEFAuLt oFF 0000 oFF oFF 0000

Timer repeat cycle function

EnbL CYCL Cnt rSt dELA

oFF 00 00:00:00

Enable cycle function
▲ and ▼ to toggle between on and oFF

Cycle count
▲ and ▼ to adjust flashing digit and P to move to next digit.

Sets number of cycles between 1 and 99 to be performed.

00 for continuous cycling

Restart delay
▲ and ▼ to adjust flashing digit and P to move to next digit.

Sets delay between cycles in the same units as SEt t

Output 1 configuration

EnbL oP1 on oP1 oFF oP1 dELA

oFF StArt StoP 00:00:00

Enable output 1
▲ and ▼ to toggle between on and oFF

Output on at
▲ and ▼ to select required function
rESEt
run
PAuSE
dELAY
donE
n rESEt
n run
n PAuSE
n dELAY
n donE

Select action that energises output 1

Output off at
▲ and ▼ to select required function
rESEt
run
PAuSE
dELAY
donE
n rESEt
n run
n PAuSE
n dELAY
n donE

Select action that de-energises output 1

Output on delay
▲ and ▼ to adjust flashing digit and P to move to next digit

Set delay in seconds before output 1 is energised.

Manuals, certificates and data-sheets can be downloaded from http://www.beka.co.uk/ba577e

Fig 6 Timer Configuration menu