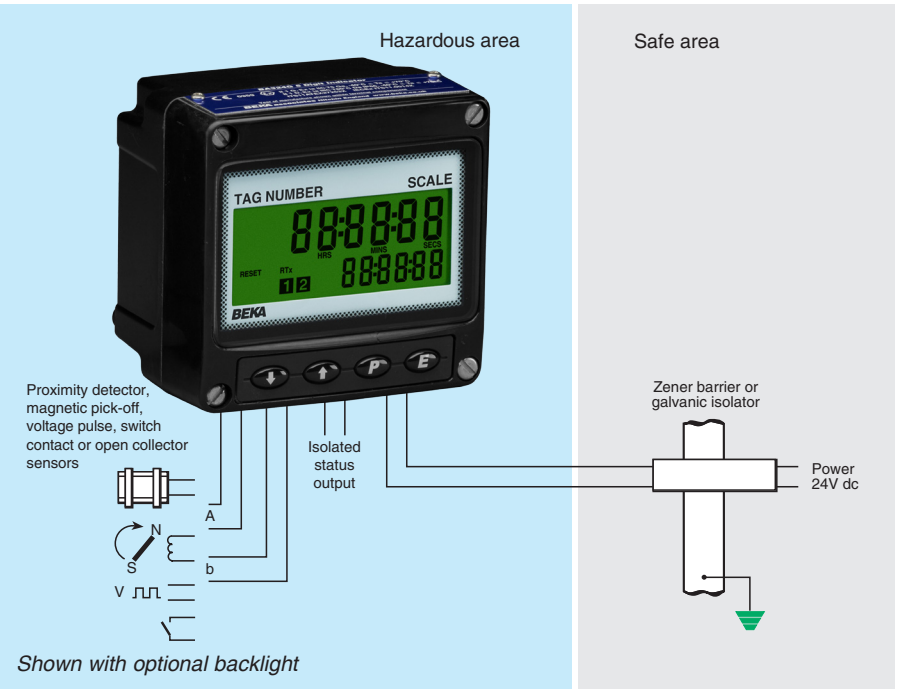

Shown with optional backlight

BA374G

two input timer or clock

Intrinsically safe for use in gas & dust hazardous areas

- **Configurable input: magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse.**
- **Separate displays**
- **Intrinsically safe**
- **IP66 GRP enclosure**
- **Isolated status output**
- **Simple on-site scale card installation.**
- **Optional: Backlight Dual alarms**
- **3 year guarantee**

www.beka.co.uk/ba374g

The BA374G is a two input, field mounting, intrinsically safe instrument that can be configured as a Timer or as a Clock. As a Timer it is able to measure the elapsed time between external events, or control external events via the status and optional control outputs. When configured as a Clock the instrument can display time in a variety of formats. The BA374G is controlled by two inputs which may be independently configured on-site to operate with a magnetic pick-off, switch contact, proximity detector or a voltage output sensor. A slide-in scale card simplifies identification and international intrinsic safety certification permits worldwide installation.

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 BA374G can be supplied configured to customers requirements including a customer defined printed scalecard for no additional charge.

Applications as a Timer include displaying the time interval between two events detected by one or two hazardous area sensors. The Timer can control an external event using the isolated open collector status output. If more than one circuit is to be switched, additional isolated dual control outputs are available as a factory fitted option. The Timer is able to perform common industrial timing application, such as those associated with dosing or sampling requiring an intrinsically safe solenoid valve to be regularly opened for a defined time. A powerful cycle function is included 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 the BA374G can display local time in various twelve or twenty four hour formats and the display may be synchronised to a pre-set time via the external reset input. Optional control outputs may be configured to switch loads on and 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 most lighting conditions over a wide temperature range.

Display backlighting which is internally powered from the timer or clock 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 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.

International intrinsic safety certification allows the BA374G timer or clock to be installed in gas and dust hazardous areas worldwide. When configured to operate with a sensor having a voltage or magnetic pick-off output, the input terminals comply with the requirements for *simple apparatus* reducing system design and documentation.

Optional control outputs can switch hazardous area loads such as a sounder or solenoid valve, or safe area loads via a Zener barrier or isolator. The two galvanically isolated, solid state voltage free outputs may be independently conditioned with normally open or closed outputs. Annunciators on the BA374G display show the status of both control outputs.

BEKA associates

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website: www.beka.co.uk

SPECIFICATION

Power supply

Voltage	10 to 28V from a Zener barrier or galvanic isolator
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 28V max
Voltage pulse (high)	3V	10V 28V max

Display

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

Remote Timer reset or Clock Sync Contact closure with resistance less than 10kΩ

Timer

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 10^8h maximum

Clock

Accuracy	Less than ±0.43s error per day over operating temperature range.

Status output Isolated, voltage free open collector, certified as a separate intrinsically safe circuit complying with the requirements for *simple apparatus*.

Ron	51Ω + 3V max
Roff	1MΩ min
I max	10mA

Intrinsic safety

International IECEx

Code	Ex ia IIC T5 Ga -40 ≤ Ta ≤ 70°C Ex ia IIIC T80°C Db -40 ≤ Ta ≤ 60°C
Cert. No.	IECEx ITS 16.0004X

Europe ATEX and UKEX

Code	Group II Category 1G Ex ia IIC T5 Ga -40 ≤ Ta ≤ 70°C Group II Category 2D Ex ia IIIC T80°C Db -40 ≤ Ta ≤ 60°C
Cert. No.s	ITS16ATEX28408X ITS21UKEX0098X

ETL & cETL

Code	Class I Div 1 Gp A, B, C, D T5 Class II Div 1 Gp E, F, G Class III	USA & Canada
	Class I Zone 0 AEx ia IIC T5 Ga Zone 20 AEx ia IIIC T80°C Da	USA
	Ex ia IIC T5 Ga Ex ia IIIC T80°C Da	Canada
	-40°C ≤ Ta ≤ 70°C	
ETL Control No.	4008610	

China CCC As IECEx - see certificate

India CCOE/PESO As ATEX - see certificate

Nonincendive USA & Canada ETL & cETL

Code	Class I Div 2 Gp A, B, C & D T5 Class II Div 2 Gp F, G. Class III Div 2 -40 ≤ Ta ≤ 70°C
ETL Control No.	4008610

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 EU and UK Directives

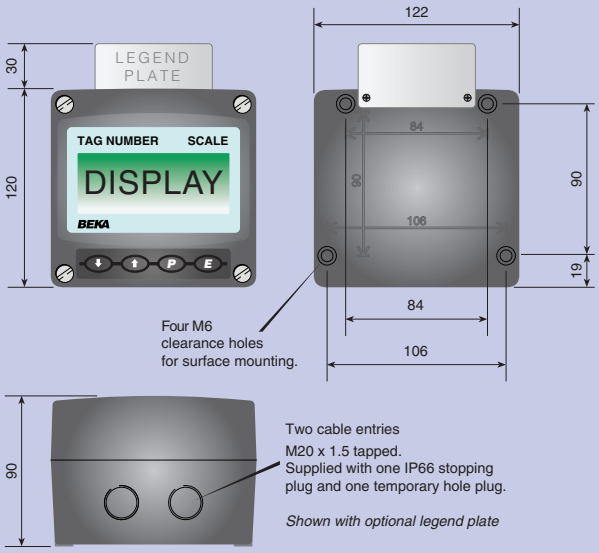
Mechanical

Terminals	Screw clamp for 0.5 to 1.5mm²
Weight	1.1kg

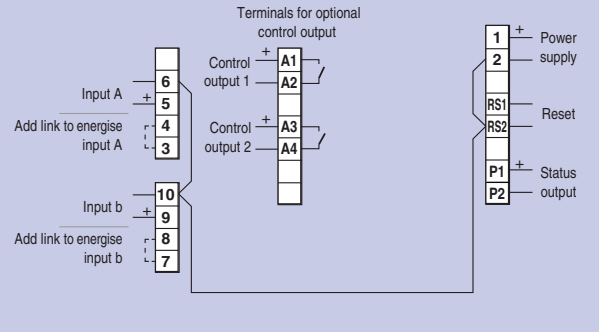
Accessories

Backlight	Green LED internally powered
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	IMΩ min

DIMENSIONS (mm)



TERMINAL CONNECTIONS



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	316 stainless steel plate laser engraved with tag number or application information attached to rear of the instrument, visible from the front. #
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 for each input
Model number	BA374G
Function	Timer or Clock
Input	Type *
Accessories	**Please specify if required**
Display backlight	Backlight
Control outputs	Control outputs
Scale card marking	
Units	Legend required
Tag	Legend required *No charge if ordered with instrument.*
Stainless legend plate	Legend required
Pipe mounting kit	BA393G
Panel mounting kit	BA394G or BA494G

** BA374G can be supplied configured as required for no additional charge, see instruction manual, which can be downloaded from www.beka.co.uk/ba374g for details. If configuration information is not supplied, instrument will be configured as a Timer with open collector inputs. Can easily be reconfigured on-site.*