

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.

Other field mounting timer or clocks include the BA374E which has the same functions as the BA374G, but incorporates a separate terminal compartment.

BA374G

two input timer or clock

Intrinsically safe for use in all 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



BEKA

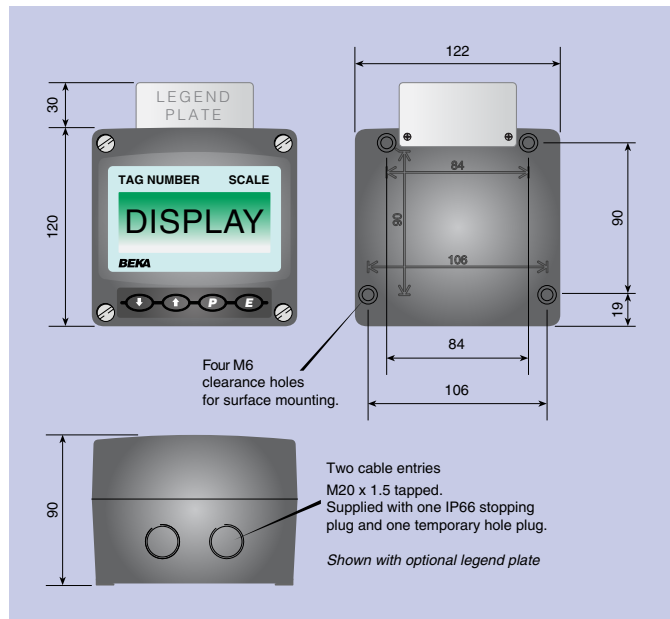
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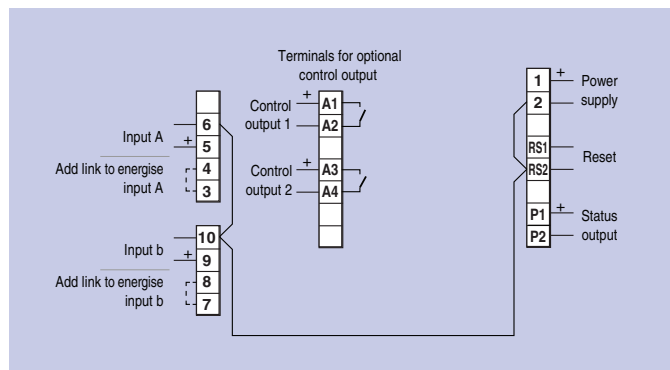
SPECIFICATION

Power supply		
Voltage	10 to 28V from a Zener barrier or galvanic isolator	
Current	16mA max plus 16mA for optional backlight	
Input		
Switch contact	Lower	Upper switching thresholds
Proximity detector (NAMUR)	100Ω	1kΩ
Open collector	1.2mA	2.1mA
Magnetic pick-off	2kΩ	10kΩ
Voltage pulse (low)	0	+40mV
Voltage pulse (high)	1V	3V 28V max
	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 ⁶ h 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 <i>simple apparatus</i> .
Ron	51Ω + 3V max	
Roff	1MΩ min	
I max	10mA	
Intrinsic safety Europe ATEX		
Code	Group II Category 1G Ex ia IIC T5 Ga -40 ≤ Ta ≤ 70°C Group II Category 1D Ex ia IIIC T80°C Da -40 ≤ Ta ≤ 60°C ITS16ATEX28408X	
Cert. No.	ITS16ATEX28408X	
International IECEx		
Code	Ex ia IIC T5 Ga -40 ≤ Ta ≤ 70°C Ex ia IIIC T80°C Da -40 ≤ Ta ≤ 60°C IECEX ITS 16.0004X	
Cert. No.	IECEX ITS 16.0004X	
ETL & cETL		
Code	Class I Div 1 Gp A, B, C, D T5 Class II Div 1 Gp E, F, G Class III Class I Zone 0 AEx ia IIC T5 Ga Zone 20 AEx ia IIIC T80°C Da Ex ia IIC T5 Ga Ex ia IIIC T80°C Da -40°C ≤ Ta ≤ 70°C USA & Canada USA Canada	
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 4008610	
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 2014/30/EU	
Mechanical		
Terminals	Screw clamp for 0.5 to 1.5mm ²	
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	1MΩ 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 #
Panel mounting kits	BA394G not sealed # BA395G sealed #
# See accessory datasheet for details	

HOW TO ORDER

Model number	BA374G	Please specify for each input
Function	Timer or Clock	
Input	Type *	
Accessories	Please specify if required	
Display backlight	Backlight	
Control outputs	Control outputs	
Scale card marking	Legend required	
Units	Legend required	
Tag	No charge if ordered with instrument.	
Stainless legend plate	Legend required	
Pipe mounting kit	BA393G	
Panel mounting kit	BA394G or BA395G	

* 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.