

The **BA574C** is a totally new field mounting indicating temperature transmitter which simplifies temperature measurement and display in process areas. It provides an accurate local digital temperature display from most common thermocouples or resistance thermometers, plus a 4/20mA analogue output current which may be scaled to represent any temperature range. The transmitter incorporates a 20mm high easy to read liquid crystal display and may be supplied with an optional LED backlight. Two adjustable alarms can also be fitted to provide over and under temperature warnings.

Main application of the BA574C is to display temperature in a process area, and to transmit a 4/20mA current to other instruments. Units of display may be °C or °F, and the linearised 4/20mA output can be scaled to represent any temperature range. The transmitter may be programmed on-site to operate with most common thermocouples and resistance thermometers, and includes facilities for differential temperature measurement. Millivoltage outputs from pressure, weighing and position transducers can also be displayed in engineering units and transmitted as a 4/20mA current.

Calibration and programming is performed via four sealed push-buttons located behind the instrument front cover where they are protected from damage and tampering. The programming functions are contained in easy to understand menus which are protected by a four digit user definable security code. All the instrument functions are programmable; including type of input, display units, and the range of the 4/20mA output. Calibration may be performed using the internal references, an external temperature calibrator or a voltage or resistive source. Loss of power does not

affect calibration, as all settings are retained for at least five years after the instrument is switched off or disconnected.

Display backlighting is available as an option to improve readability when the BA574C is installed in a poorly illuminated area. High efficiency LEDs provide an even glow to enhance the display contrast.

Optional alarms provide two galvanically isolated solid state outputs which may be independently programmed as high or low trips. Each alarm can switch a 30V, 100mA dc load.

Two types of enclosure are available, each has stainless steel fittings and a toughened glass window and is sealed with a neoprene gasket. The sturdy glass reinforced polyester (GRP) enclosure is suitable for most industrial applications including off-shore and water treatment. For installation where solvents may be encountered, the epoxy painted aluminium enclosure provides maximum protection. Both the GRP and aluminium enclosures, which have been tested by ERA, provide IP66 protection as specified in BS5490. To simplify installation and maintenance, the transmitter assembly can be removed from the enclosure without disconnecting the field wiring.

Reliability is ensured by an ISO9001 approved quality control system supported by a three year guarantee. The BA574C is protected from reverse connection and overrange inputs, and incorporates extensive radio frequency filtering to comply with the European EMC Directive.

Complementary transmitters for use in hazardous areas are available, see BA374C and BA374NC datasheets.

BA574C

Indicating temperature transmitter

General purpose

- ◆ Large display
- ◆ Loop powered
- ◆ THC, RTD or voltage input
- ◆ Optional: Display backlight Alarms
- ◆ IP66 GRP or aluminium enclosure
- ◆ 3 year guarantee

BEKA

associates

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SPECIFICATION

Supply			
Voltage	10 to 30V		
Output			
(loop power current)			
Current	3.8 to 22mA		
Resolution	1µA		
Resistance	5M ohm minimum		
Display			
Type	Liquid crystal 20mm high		
Reading rate	2 per second		
Overrange	4 least significant digits are blanked		
Input			
Type	Display range °C	Display resolution °C	
Thermocouple	E	-205.0 to 1000.0	0.1
	J	-210.0 to 1200.0	0.2
	K	-205.0 to 1372.0	0.2
	N	0.0 to 1300.0	0.1
	R	0.0 to 1767.0	0.5
	T	-200.0 to 400.0	0.1
	Pallaplat	-100.0 to 490.0	0.2
	Cold junction compensation.	Selectable ON or OFF	
Broken THC detection.	Selectable UP, DOWN or OFF		
Resistance thermometer			
Type	Pt100 BS EN60751:1996 three or four wire connection, or differential.		
Excitation current	175µA		
Resolution	0.1°C		
Voltage			
Range	±75mV		
Resolution	2.38µV		
Isolation			
250V rms between input and output			

Performance

Effect of temperature on display			
	Voltage input	THC input	RTD input
Zero drift	1µV/°C	1µV/°C + 0.02°C/°C	20ppm/°C
Span drift	<30ppm/°C	<30ppm/°C	<80ppm/°C

Effect of temperature on 4/20mA output
(in addition to above)

Zero drift	20ppm/°C
Span drift	50ppm/°C

Linearity <0.1% error for all types of input

Series mode ac rejection <0.1% error for 150mV rms 50 or 60Hz

Common mode ac rejection <0.1% error for 250V rms 50 or 60Hz

Environmental

Operating temp	-20 to +60°C (Certified for use at -40°C)
Storage temp	-40 to +85°C
Humidity	To 95% at 40°C
Enclosure	IP66 see ERA test report 5046/228
EMC	In accordance with EU Directive 89/336/EEC, full report available.

Mechanical

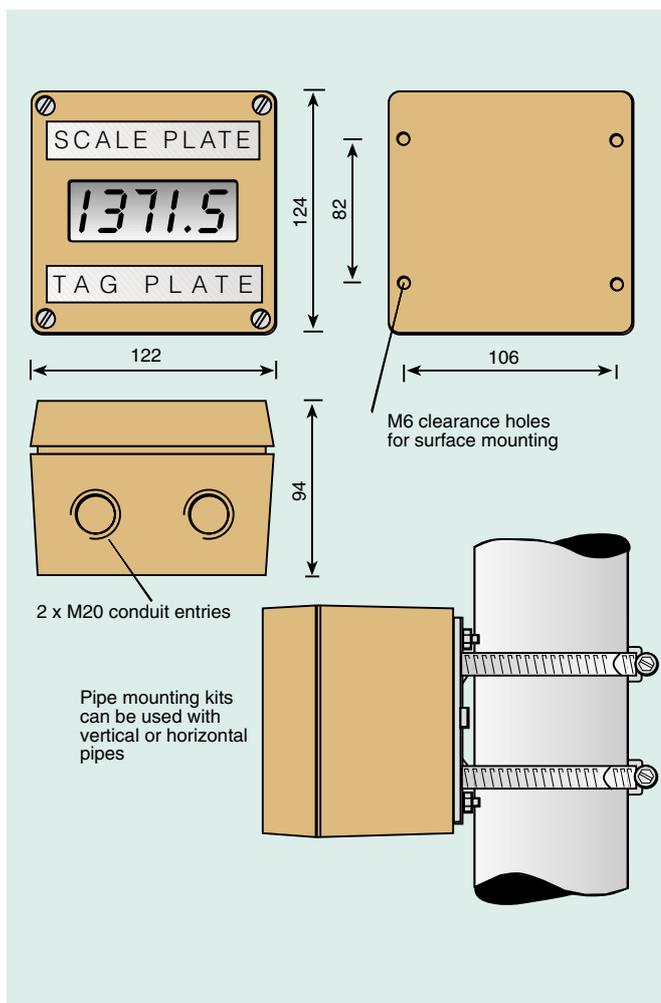
Terminals	Screw clamp for 0.5 to 2.5mm ² cables
Weight	GRP enclosure 1kg
	Aluminium enclosure 1.4kg

Accessories

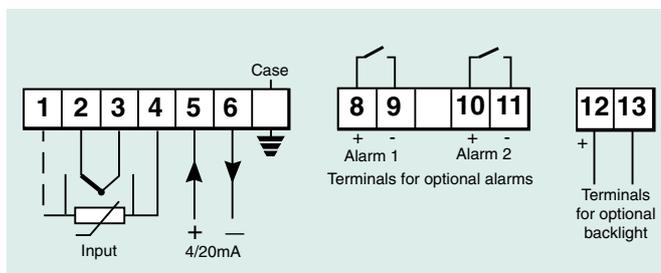
Separately powered backlight	LED backlight powered from 18 to 30V dc supply.
Alarms	Two independent alarms each of which may be programmed as a high or low trip with a NC or NO output.
Outputs	Isolated solid state switch
Ron	Less than 5Ω + 0.6V
Roff	Greater than 180k
Vmax	30Vdc
Imax	100mA
Engraved scale plate	Removable blank stainless steel plate fitted to each indicator, can be supplied engraved with units of measurement.*
Engraved tag plate	Removable blank stainless steel plate fitted to each indicator, can be supplied engraved with tagging information.*
Pipe mounting	2 kits are available, BA392C and BA393*
Panel mounting kit	BA394 mounts BA574C into a panel aperture.*

*See accessory datasheet for details

DIMENSIONS (mm)



TERMINAL CONNECTIONS



HOW TO ORDER

Model number	BA574C	Please specify
Enclosure	GRP or aluminium	
Input	THC & type, RTD & type or voltage*	
CJ compensation	On or OFF] For THC input
Broken THC drive	Up, Down or Off	
Input voltage range	mV zero and span and corresponding displays.] For voltage input
	°C or °F	
Display units	High or low] For THC & RTD inputs
Display resolution		
Display at which output is:	4mA	XXXX*
	20mA	XXXX*
Accessories	Please specify if required	
Display backlight	Separately powered backlight	
Alarms	Alarms#	
Scale plate	Legend	
Tag plate	Legend	
Pipe mounting kit	BA392C or BA393	
Panel mounting kit	BA394	

*If calibration information is not supplied, will be set for 3 wire RTD input with 4 to 20mA output corresponding to a display of 0.0 to 100.0°C.

#Contact BEKA if calibration of accessories is required.