

The BA364ND is a Type nL certified multi-function instrument which may be programmed to perform a host of counting and timing functions. Easy to use menus allow the instrument to be configured as a counter, timer, tachometer or as a clock. Both of the inputs will operate from 2-wire proximity detectors, switch contacts, magnetic pick-offs, open collectors or voltage pulses. Optional alarm/control outputs further extend the many applications.

Counting may be from one or both inputs. The pulses at each input can be added to, or subtracted from each other, and the result may be scaled to provide a display in engineering units. Alternatively, pulses on one input can increment or decrement the total count depending upon the state of the other input. From two inputs electrically 90° out of phase (quadrature), the BA364ND can display the direction of movement and position of a shaft or a cable. The total display may be reset to zero via the instrument controls or by a remote contact closure.

As a timer the BA364ND may be started and stopped by one or both inputs or from the instrument push-buttons. Elapsed or remaining time may be displayed in hours, minutes and seconds, or in just hours and minutes. When fitted with optional control outputs the instrument can control any process which is required to operate for a fixed time.

Rotational speed may be measured using the tachometer function which will display revolutions per second, minute or per hour. The instrument contains a run-time counter which can show the total operating time of the monitored machinery on the second display. When fitted with optional alarms, over and under speed warnings can be generated.

Configuration as a digital clock enables time to be displayed in twelve or twenty four hour format within a Zone 2 hazardous area. The instrument may operate as a stand-alone clock, or may be synchronised via the reset terminals with an external reference. Two optional control outputs enable hazardous or safe area loads to be turned on and off at pre-set times twice in each twelve or twenty four hour period.

Control and programming of the BA364ND is performed via four push-buttons which are

Zone 2

Safe area



BA364ND

Counter, timer, tachometer, clock

Type nL certified for use in Zone 2 areas

◆ Separate 8 digit and 6 digit displays

◆ Two inputs

◆ Group II, Category 3G ATEX certification

◆ IP66 enclosure for surface, pipe or stem mounting

◆ Optional:
Display backlight
Alarms
Pulse and 4/20mA outputs
External keypad

◆ 3 year guarantee



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SPECIFICATION

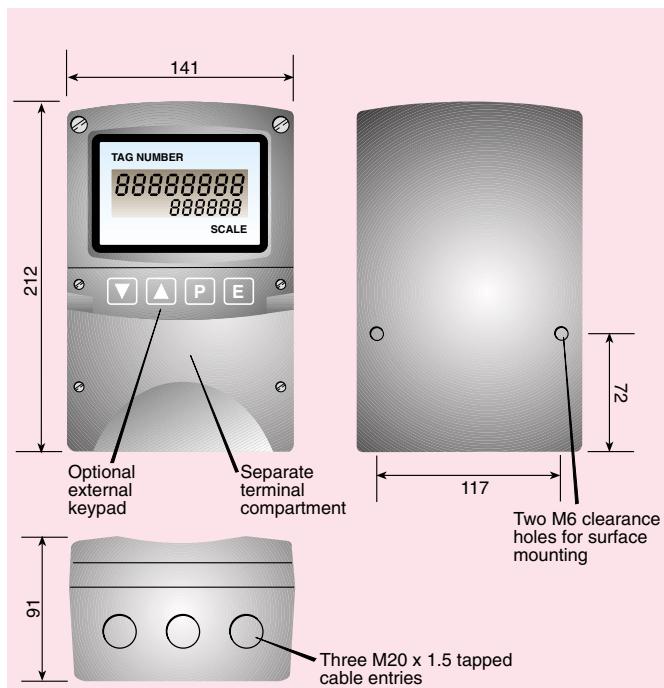
Power supply	10 to 30V dc 12mA max., plus proximity detector current when used.
Inputs A and B	
Switch contact	Less than 100Ω
Closed	Greater than 1kΩ
Open	2-wire NAMUR
Proximity detector	40mV peak to peak typical
Magnetic pick-off	
Voltage pulse	
Low	Less than 1V
High	Greater than 3V; 30V max
Open collector	
Closed	Less than 2kΩ
Open	Greater than 10kΩ
Frequency	
Switch contact	100Hz max
Other inputs	5kHz max. Reduced to 2kHz for quadrature input
Display	
Type	Liquid crystal
Primary	8 digits 14mm high;
Decimal point	1 of 7 positions or absent; colons for h:m:s
Secondary	6 digits 9.5mm high
Decimal point	1 of 5 positions or absent; colons for hh:mm:ss
Remote reset	Contact closure with resistance less than 1kΩ
Programmable functions	
Counter	A; A+B or A-B A direction controlled by B A and B Quadrature (90° out of phase) Adjustable between 0.001 & 99999999 10 ¹⁶ max count Adjustable between 0.001 & 99999999
Timer	Elapsed time displayed as hh:mm:ss or hh:mm 99 hours:59 minutes: 59 seconds Up or down
Tachometer	Revolutions displayed per sec, per min or per hour. Rate scale factor Run time display
Clock	Set time displayed in 24 or 12 hour format. External synchronisation

Type nL certification	
ATEX Declaration of Conformity	
Code	Group II, Category 3G, Ex nL IIC T5
Tamb	-20 to +60°C
Location	Zone 2
Cert. No.	BEKA01ATEX0013
Environmental	
Operating temperature	-20 to 60°C
Storage temperature	-40 to 85°C
Enclosure	IP66 see ITS test report C87IV0383A
EMC	In accordance with EU Directive 2004/108/EC.
Immunity	Less than 1% error at 10V/m
Emissions	Undetectable above background noise. Class B equipment
Mechanical	
Terminals	Screw clamp for 0.5 to 2.5mm ² cables.
Weight	1.6kg
Accessories	
Alarms/control outputs	Two independent outputs
Outputs	Isolated solid state switch
On	Less than 5Ω +0.6V
Off	Greater than 180kΩ
Display backlighting	LED backlight powered from 18 to 30V dc supply
Re-transmitted pulse	Isolated pulse sink
Width	Adjustable 0.5 to 50ms
On	Less than 60Ω +3V
Off	Greater than 1MΩ
4/20mA output	Isolated current sink
Voltage drop	5V max
External keypad	Membrane keypad enables instrument to be adjusted without removing the control cover.
Scale legend	Units of measurement marked onto display escutcheon.*

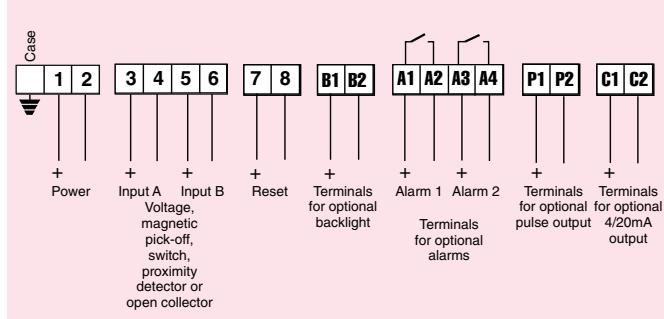
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DIMENSIONS (mm)



TERMINAL CONNECTIONS



Tag legend

Tag number or applicational information marked onto display escutcheon.*

Stainless legend plate

Stainless steel plate secured to front of instrument, etched with tagging or applicational information.*

Pipe mounting kit

2 kits are available BA392D and BA393.*

* See accessory datasheet for details

HOW TO ORDER

Model number	please specify
Configuration	BA364ND
Inputs	Counter; timer; tachometer or clock. Proximity detector; switch contact; magnetic pick-off, open collector or voltage pulse.
Calibration information	Settings required #
Accessories	please specify
Display backlight	Backlight
Alarms/control outputs	Alarms
Re-transmitted pulse output	Pulse output
4/20mA output	4/20mA output
External keypad	External keypad
Escutcheon marking	Scale legend required
Scale	Tag legend required
Tag	Legend required
Stainless legend plate	BA392D or BA393
Pipe mounting kit	

If calibration information is not supplied, instrument will be conditioned as a counter; input A + input B; for open collector inputs; rate & total scale factors of 1.

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