

NORTONICS



NORTONICS FOXTAM LIMITED

HEAD OFFICE: The Old Bakery, 265 Yorktown Road, Sandhurst, Berkshire GU47 9BN
MANUFACTURING: Foxtam House, Watts Street, Chadderton, Oldham, Lancashire OL9 9LQ

HEAD OFFICE Tel: +44 (01276) 32777 Fax: +44 (01276) 31977
MANUFACTURING Tel: +44 (0161) 6265316 Fax: +44 (0161) 6270929

Website: www.nortonics.co.uk E-mail: sales@nortonics.co.uk

Tel: 01276 32777 Fax: 01276 31977

INDEX



PAGE No.	PRODUCT DESCRIPTION
<p>PAGE 1</p>	<p>MECHANICAL TIMERS</p> <p>MECHANICAL EXTENSION TIMERS</p>
<p>PAGE 2 PAGES 3 - 5</p>	<p>TIME CLOCKS</p> <p>MECHANICAL TIME CLOCKS DAILY & WEEKLY</p> <p>DIGITAL TIME CLOCKS WEEKLY & YEARLY</p>
<p>PAGE 6 PAGES 7 - 8</p>	<p>ELECTRONIC TIMERS</p> <p>14 PIN 4PCO TIMER</p> <p>DIN 48 PANEL MOUNTED TIMERS ANALOGUE & DIGITAL SETTING</p>

MECHANICAL EXTENSION TIMERS TYPE: 136.2

- No supply voltage required
- Clockwork spring driven
- Easy screw fixing
- Rugged construction

■ Description

Mechanical extension timers, totally mechanically driven by a clockwork spring, no auxiliary supply voltage required. The moment the setting knob is turned past zero to the set time required, the contacts switch, the timer will then start running back to zero. When zero is reached the contacts will switch back. If after the initial time has been set, it is required that the set time needs to be lengthened or shortened, this can be done by turning the knob to the new time required without harming the mechanical mechanism. The timer benefits from 16Amp / 250V change over contacts and is easily fitted to the front of a control panel via screw fixings.

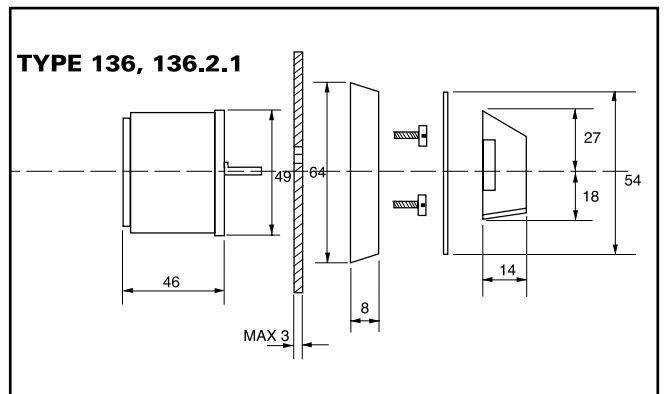
■ Applications

This simple but rugged timer is an ideal override unit for heating and ventilation systems; for example, "care taker" override to a BMS system in schools, offices etc. Also for process control applications including bakery equipment, oven controls and mixing systems.

■ Specifications



■ Dimensions



TYPE	136.2	136.2.1
Movement	balanced wheel, clockwork	balanced wheel, clockwork
Run-down times	6, 12, 24, hours	6, 12, 24, hours
Method of fixing	two screws 3.5 x 9.5 mm	two screws 3.5 x 9.5 mm
Connection	single-pole change-over contacts	double-pole n/o contacts (P1 -1) + (P2 - 2)
Switch ratings	16A / 250 V	16A / 250 V
Ambient temperature: Complete device	- 10 °C to + 70 °C	- 10 °C to + 70 °C
Connections	6.3x0.8mm fast on terminals	6.3x0.8mm fast on terminals
Approval	VDE	VDE
Weight	190 g	190 g
Connection diagrams		

ALPHA Time Switch

■ Main Characteristics

Mechanical time clocks, suitable for Din rail mounting, front panel mounting or surface mounting. When front panel mounted the front panel size is a standard Din 72mm (panel cut out 68mm square). Available with or without 100 hour battery reserve, either as a daily time clock or weekly time clock. On daily versions each setting peg equals 15 mins, on weekly versions each setting peg equals 2 hours. All versions feature captive time setting pegs, an override switch ON/OFF/AUTO and 16 Amp/250VAC rated switching contacts. The ALPHA clocks are stylish yet rugged and simple to use. A choice of 230VAC, 110VAC 24VAC and 24VDC supply versions make them ideal for many applications.



■ Specifications

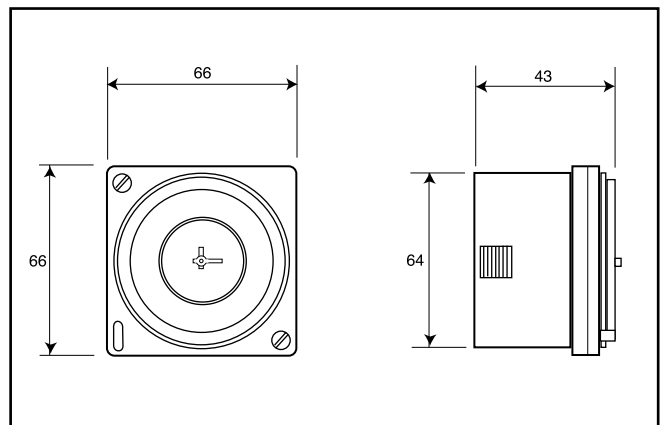
- Supply voltage:** 230 VAC, 110 VAC, 24 VAC, 24 VDC.
- Frequency:** Quartz: 45-60 Hz.
Synchronous: 50 Hz.
- Breaking capacity:** 6 A., 250 V. $\cos \phi = 1$.
- Working reserve:** Quartz: 100 hours.
- Synchronous:** Without reserve.
- Operating Temperature:** - 10°C to + 50°C.
- Programme:** Daily dial: 96 pins, minimum switching time 15 minutes.
Weekly dial: 84 pins, minimum switching time 2 hours.
- Manual override:** For switching ON and OFF independent of the program.
- Cover:** Thermoplastic, Self-extinguishing.
- Mounting:** Suitable for surface, panel of DIN rail.

Different types:

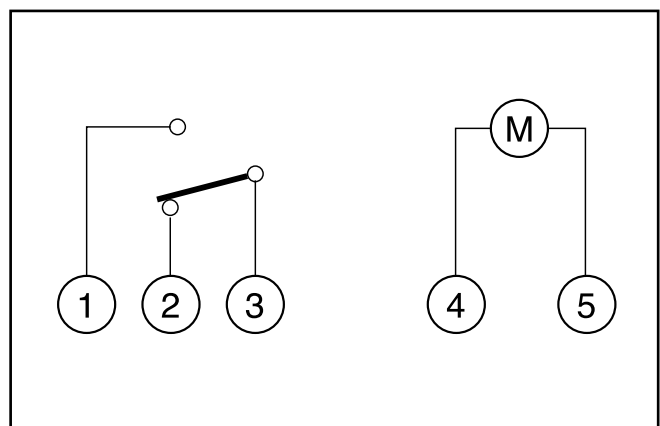
- ALPHA D: Daily/without reserve. *
- ALPHA QRD: Daily/with reserve. *
- ALPHA S: Weekly/without reserve. *
- ALPHA QRS: Weekly/with reserve. *

* Specify voltage required

■ Dimensions



■ Wiring Diagram



PROGRAMMABLE TIME SWITCH

SC28.11 & SC28.21 Din rail mounting daily and weekly programmable
 SC28.13 & SC28.23 Astro version (auto daily correction for sunset & sunrise)

- 1 or 2 channels
- Daily and weekly program
- 30 memory locations
- ON, OFF or pulse functions 1-59 secs (not on Astro version)
- Holiday switching by date permanently ON or OFF (not on Astro version)
- Minimum interval 1 min.
- Switching capacity 16Amps per channel. (Astro version 10Amps consult sales office for information on lighting loads)
- Permanently ON or OFF with manual switch
- Manual override
- Analogue display of switching program for current day of the week (for each channel)
- Automatic sorting of switching times on readout
- Alteration of switching times on readout
- Unrestricted block-programming of days, channels and switching functions
- Automatic correct channel setting (ON or OFF) after entering or changing clock time or programming
- Glass cover may be lead-sealed
- Fully automatic summertime when date entered (European Time)

■ Operating Mode

Automatic (AUTO)

Normal operation of programmable time switch; with display of day of the week, clock time, channel switch status, for current day switching program. Permanently ON or permanently OFF.

Programming (Pr)

Switching time inputs

Select, Change, Delete(?)

Readout, change, individual deletion of switching times

Clock time ⌚

Input of current day and time

Summertime (S/W)

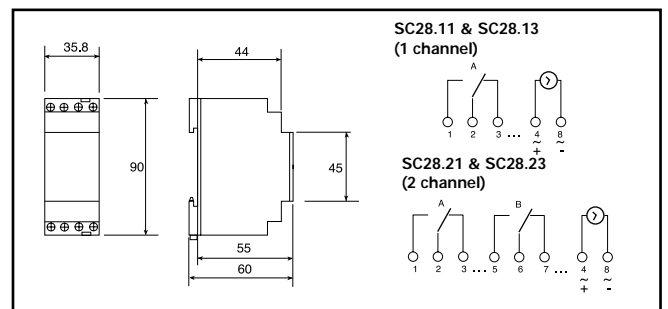
Activation or suppression of the fully automatic summertime adjustment to the European Standard

■ Information required with Order

TYPE/ORDER NO.	CHANNELS	POWER BACK UP	ASTRO TYPE
SC28.11	1	>6 years	No
SC28.13	1	>6 years	Yes
SC28.21	2	>6 years	No
SC28.23	2	>6 years	Yes



■ Dimensions/Connection Layout



■ Specifications

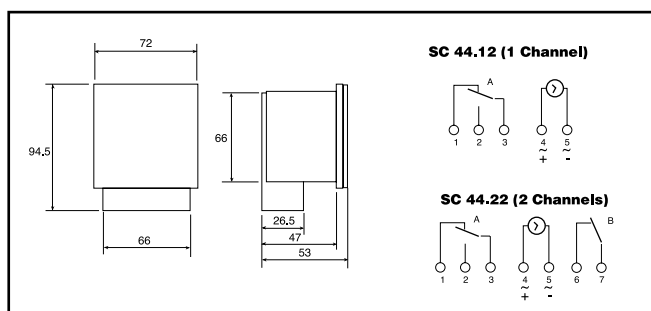
Supply voltage	230 VAC, 110 VAC, 24 VAC, 24 VDC
Power consumption	approx. 1.5 VA
Channel (potential-free)	Change over contact gap < 3mm
Contact material	AgCdO
Switching capacity per channel	16A / 250VAC 10A / 250VAC (Astro version)
Switching functions	ON, OFF pulse
Pulse length	1 sec (Not Astro version)
Memory locations	30
Minimum interval	1 min.
Time base	Quartz crystal
Power back-up (at 20°C)	>6 years (Lithium-battery)
Quartz crystal accuracy (at 20°C)	<± 1.5 sec/day
Display	LCD
Permissible ambient temperature	-10° to +50°C
Enclosure	Self-extinguishing thermoplastic, black 45 x 35 x 55 mm 35 mm section rails (DIN EN 50 022)
Dimensions	
Distribution board mounting	
Type of connection	Screw terminals
Type of protection	IP20 to DIN 40 050

PROGRAMMABLE TIME SWITCH SC44.12 & SC44.22 for panel and wall mounting daily and weekly programmable

- 1 or 2 channels
- Daily and weekly program
- 30 memory locations
- ON, OFF or pulse functions 1-59 secs
- Holiday switching by date permanently ON or OFF
- Minimum interval 1 min.
- Switching capacity 16Amps (per channel)
- Permanently ON or OFF with manual switch
- Manual override
- Analogue display of switching program for current day of the week (for each channel)
- Automatic sorting of switching times on readout
- Alteration of switching times on readout
- Unrestricted block-programming of days, channels and switching functions
- Fully automatic summertime when date entered, European standard



■ Dimensions/Connection Layout



■ Programming Options

- Daily or weekly
- Holiday switching (1...99 days)
- Permanently ON or OFF with manual switch (Perm ON or perm OFF)

■ Operating Mode

Automatic (AUTO)

Normal operation of programmable time switch; with display of day of the week, clock time, channel switch status, for current day switching program. Permanently ON or permanently OFF.

Programming (Pr)

Switching time inputs

Select, Change, Delete(?)

Readout, change, individual deletion of switching times

Clock time ⌚

Input of current day and time

Summertime (S/W)

On entering current date, including year (2 digit), adjustment is made automatically for summertime.

■ Information required with Order

TYPE/ORDER NO.	CHANNELS	TIMER BASE
SC44.12	1	Quartz
SC44.22	2	Quartz

■ Specifications

Supply voltage	230 VAC, 110 VAC, 24 VAC, 24 VDC
Power consumption	approx. 1.5 VA
Channel (potential-free)	Channel A: Change over Channel B: Normally open
Contact material	AgCdO
Switching capacity per channel	16Amp / 250V~
Switching functions	ON, OFF, pulse
Memory locations	30
Minimum interval	1 min.
Time base	Quartz crystal
Power back-up (at 20°C)	Approx 6 years (Lithium-battery)
Quartz crystal accuracy (at 20°C)	<±1.5 sec/day
Display	LCD, 7.5 mm high numerals
Permissible ambient temperature	-5° to +50°C
Enclosure	Self-extinguishing thermoplastic, black
Dimensions	72 x 72 mm
Switchboard flush mounting	Retaining clips via a 68 x 68 mm cutout
Surface mounting	Wall mounting with terminal cover
Type of connection	Screw terminals
Type of protection	IP20 to DIN 40 050

PROGRAMMABLE TIME SWITCH SC98

for Din rail mounting
Yearly, weekly and daily programmable

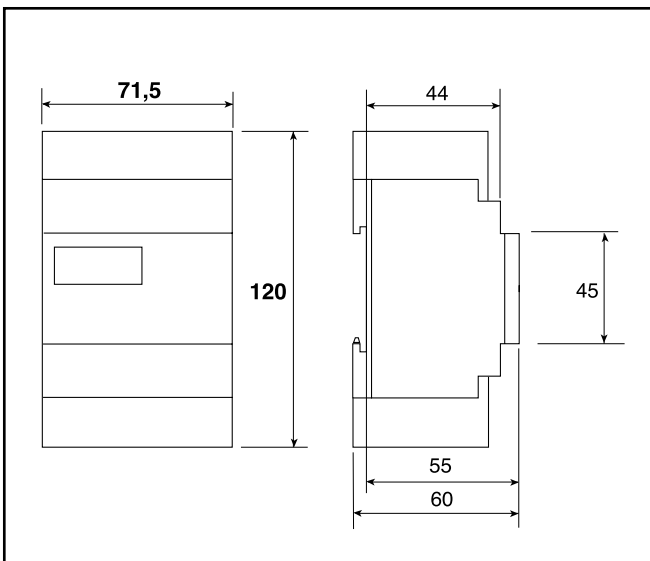
- 1,2,3 or 4 channels
- Daily, weekly and yearly programmable
- 102 memory locations
- ON, OFF or pulse functions 1 to 59 secs
- 16 weekly programmings can be called up as often as required per channel by date
- Permanently ON or OFF by date
- Minimum interval 1 min or 1 sec with pulses
- Switching capacity 10 Amps per channel
- Permanently ON or OFF with manual switch
- Automatic sorting of switching times on readout
- Alteration of switching times
- Unrestricted block-programming of days, channels and switching functions
- Automatic correct channel setting (ON or OFF) after entering or changing clock time or programming
- Glass cover and terminal cover may be lead-sealed



Operating Mode

Very similar to SC44 and SC28, a full instruction booklet is supplied with regards utilising the many extra facilities

Dimensions



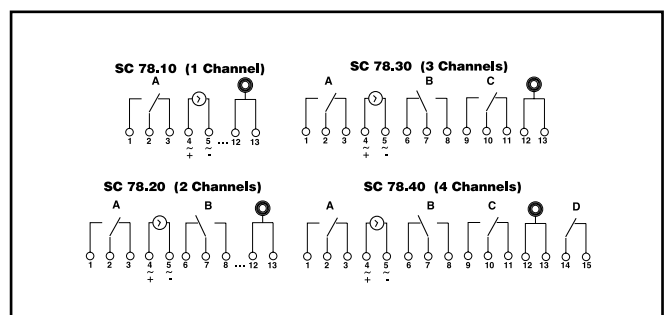
Information required with Order

TYPE/ORDER NO.	CHANNELS	TIMER BASE
SC 98.10	1	Quartz/DCF
SC 98.20	2	Quartz/DCF
SC 98.30	3	Quartz/DCF
SC 98.40	4	Quartz/DCF

Specifications

Supply voltage	230 VAC, 110 VAC, 24 VAC, 24 VDC
Power consumption	Approx 2 VA
Channel (potential-free)	Channel A - C: Change over, channel D: normally open, AgCdO
Contact material	AgCdO
Switching capacity per channel	10 A/250V~
Switching functions	ON, OFF, pulse
Pulse Length	01 to 59 sec
Memory locations	102
Minimum interval	1 min. (1sec pulse mode)
Time base	Quartz crystal DCF 77
Power back-up (at 20°C)	Approx 10 years without display and switching functions (Lithium-battery)
Quartz crystal accuracy (at 20°C)	<±1.5 sec/day
Display	LCD
Permissible ambient temperature	-10° to +50°C
Enclosure	Self-extinguishing thermoplastic, black
Dimensions	45 x 71.5 x 55 mm
Distribution board mounting	35 mm section rails (DIN EN 50 022)
Surface mounting	Wall mounting with terminal cover, may be lead-sealed
Type of connection	Screw terminals

Connection Layout



TB48

Miniature electronic 4 pole timer
Multi Time Range
Multi Function

Two front mounted LED's show the presence of power feed and relay status. The printed circuit is built to UL, CSA & VDE 110C

■ Specification

Standard supply voltage 12Vac or Vdc ± 15%
24Vac or Vdc ± 15%
48Vac or Vdc ± 15%
110Vac or Vdc ± 15%
240Vac ± 15%

Power consumption 1VA

Output relay voltage & current rating 250Vac - 5A resistive

Insulation voltage 2000Vac for 1 sec

Operating temperature range -10° + 55°C

Electrical life 5 x 10⁵ operations

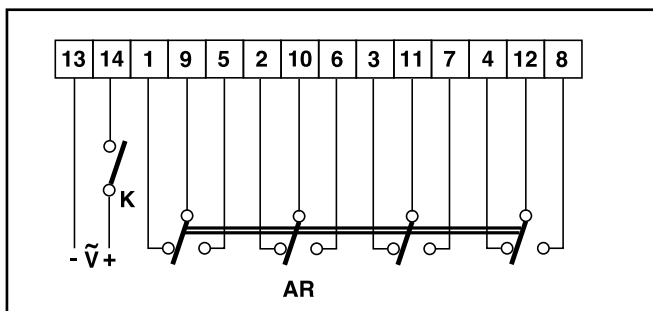
Mechanical life 1 x 10⁷ operations

Calibration error at full scale ± 3%

Repeatability error ± 1%

Time range (selectable) 15s - 60s - 8min - 64min

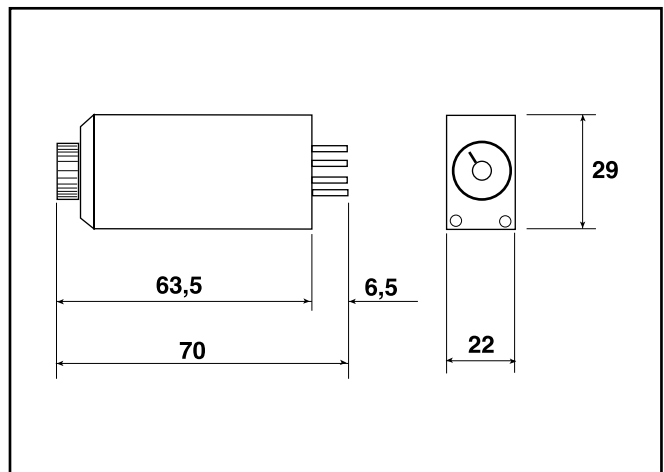
■ Wiring Diagram



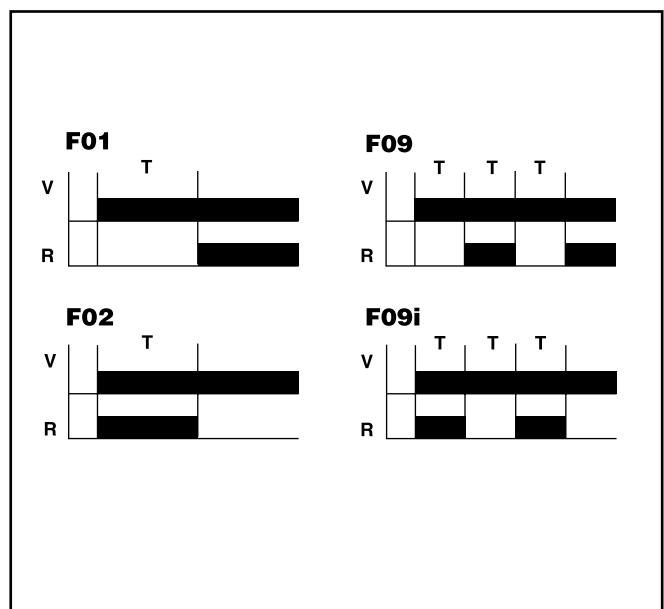
■ Information required with Order
TB48/Voltage



■ Dimensions



■ Functions (selectable)



DIN 48 front panel mounted electronic timer

- Multi timer range
- Multi voltage 24-240VAC/DC
- Dual function
- LED timing indication

■ Description

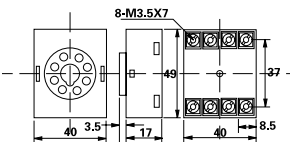
A Din standard 48mm front panel mounted electronic timer. The timer is multi time range. Selectable from the front are eight different time ranges from 1 sec - 600 hrs. The timer is also multi voltage 24 - 240VAC/DC. Fitted are two pairs of changeover contacts rated at 5Amps. The timer can be used for either delay on, or delay off applications, depending on what side the contacts are wired. A mode switch is also fitted (mode A or B). Mode A will facilitate two timed contacts and mode B one timed and one instant contact.

■ Applications

An ideal timer for many process control applications where the set time needs to be easily adjusted by an operator.

■ Connections

The timer is fitted with a standard octal 8 pin arrangement and can be fitted, if desired, into a standard 8 pin socket. However, for front panel applications, we can offer two neat wiring alternatives:-



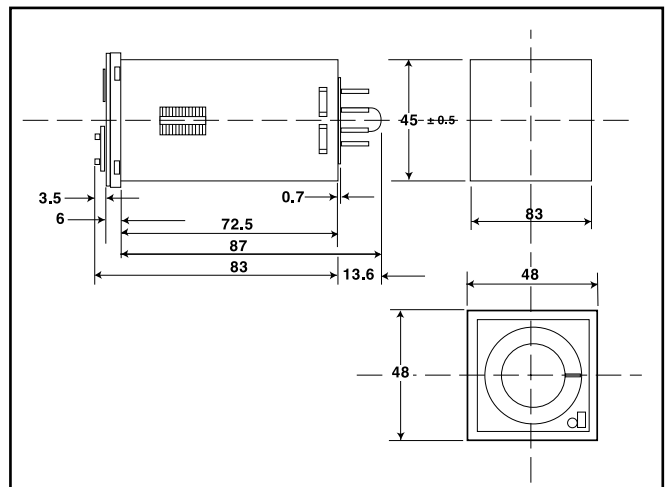
US-08 8 pin in line socket gland P3G-08
 P3G-08 8 pin reversed socket.

■ Specifications

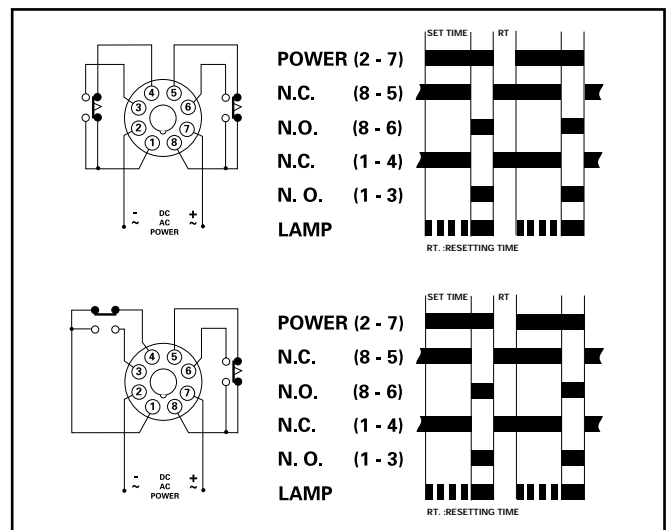
Dimensions:	48H x 48W x 84D
Selectable Time Ranges:	1 sec, 10 secs, 1 min, 10 mins, 1 hr, 10 hrs, 60 hrs, 600 hrs
Operating Supply Voltage:	24 - 240VAC/DC
Operating Indication:	Via pulsating LED during timing period
Operating Mode:	Mode A = 2 timed contacts. Mode B = 1 timed & 1 instant contact
Contact Rating:	5 Amps at 250VAC
Mechanical Life:	5 Million operations
Repeat Error:	+/- 1% max
Reset Time:	0.2 sec max.
Power Consumption:	2VA
Operating Temperature:	-10°C to +55°C
Max. Humidity:	85%RH



■ Dimensions



■ Wiring Diagrams



DIN 48 front panel mounted digital electronic timer

- Multi time range
- Very accurate time setting
- LED digital display
- Timing hold input facility
- Timing reset input facility

■ Description

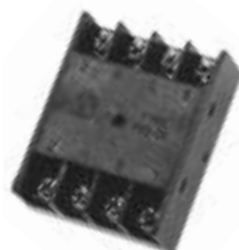
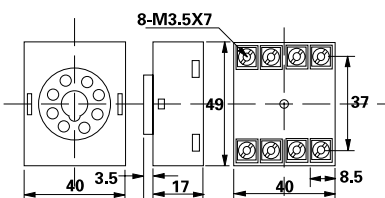
A Din standard 48mm front panel mounted digital electronic timer, the timer is multi-time range. Selectable from the front are seven different time ranges from 0.01 sec - 999 hrs. The time range is set by a thumbwheel switch on the front of the timer and then the set time likewise by three more thumbwheel switches, this facilitates very accurate settings. Fitted is one set of changeover contacts rated at 5 Amps; the timer can be used for either delay on make or delay on break applications depending on what side the contacts are wired. On application of the supply voltage to terminals 2 and 7 the three digit LED digital display will start to count. On reaching the set time, as per the thumbwheel switches, the relay contact will switch. Fitted also is a 'GATE' input across terminals 1 and 4 when this is made this will hold the time, when broken the timing will recommence from where it left off. The 'Reset' input across terminals 1 and 3 will, if made, reset the timer and display back to zero, when 1 and 3 are broken, timing will recommence from zero. Once timing has completed and the relay has switched, resetting can be either by removal of the supply voltage from terminals 2 and 7 or by use of the 'RESET' facility as described above.

■ Applications

An ideal timer for many process control applications where the set time needs to be easily and very accurately adjusted by an operator. Unlike ordinary timers, operators will have visual indication of the timing period as it times up via the LED digital display. On applications where the process could be interrupted, but a memory is needed of the 'elapsed time so far', the 'GATE' input would be very useful.

■ Connections

The timer is fitted with a standard octal 8 pin arrangement and can be fitted, if desired, into a standard 8 pin socket. However, for front panel applications, we can offer two neat wiring alternatives:-



P3G-08

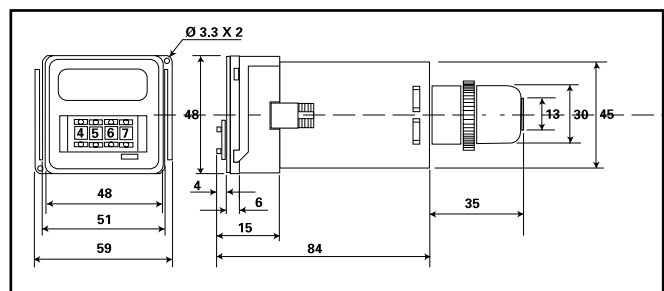
- US-08 8 pin in-line socket gland
- P3G-08 8 pin reversed socket



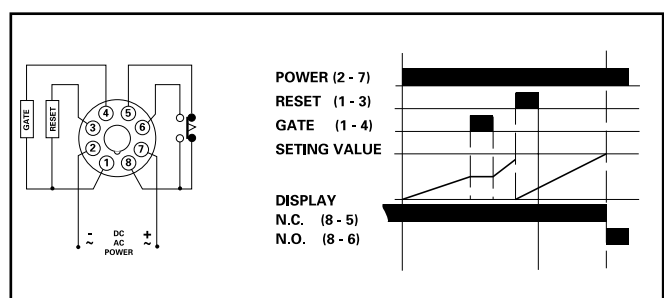
■ Specifications

Dimensions:	48H x 48W x 84D
Selectable Time Ranges:	9.99 secs, 99.9 secs, 999 secs, 99.9 mins, 999 mins, 99.9 hrs, 999 hrs
Operating Supply Voltage:	24VDC, 24VAC, 110VAC, 240VAC (other voltages on request)
Operating Indication:	Via timing LED digital display
Contact Rating:	5Amps at 250VAC
Mechanical Life:	5 Million operations
Repeat Error:	+/- 0.03%
Reset time:	0.1sec max.
Power Consumption:	2VA
Operating Temperature:	-10°C to +55°

■ Dimensions



■ Wiring Diagrams



NORTONICS



NORTONICS FOXTAM LIMITED

HEAD OFFICE: The Old Bakery, 265 Yorktown Road, Sandhurst, Berkshire GU47 9BN
MANUFACTURING: Foxtam House, Watts Street, Chadderton, Oldham, Lancashire OL9 9LQ

HEAD OFFICE Tel: +44 (01276) 32777 Fax: +44 (01276) 31977
MANUFACTURING Tel: +44 (0161) 6265316 Fax: +44 (0161) 6270929

Website: www.nortonics.co.uk E-mail: sales@nortonics.co.uk

Tel: 01276 32777 Fax: 01276 31977