Icon Electronics

D3
53mm
DIN rail mount

D4
72mm
DIN rail mount

P44
48mmx48mm
panel mount

P49
48mmx96mm
panel mount

MULTI FUNCTION TIMER

D3-MFT1
D4-MFT1
P44-MFT1
P49-MFT1

Operating instructions and Guarantee Certificate
www.iconelectronics.co.za

Description:

This device is used for “on delay”, “interval”, or “repeating” functions and offers two time ranges: Hours and minutes OR minutes and seconds.

In repeating mode, the”on” time may be in one range, and the “off” time in another.

With the “save” function activated, timing will continue from where it left off after a power failure.

The timer may be pulse controlled (see the “pulse type” menu option).

The menu can be reduced to allow changes to the timing value(s) only.(see menu configuration). The parameters may be locked with an access code to protect programmed values.

Adjustable paramaters:

· Function (“Func”) Use this setting to select the device’s functionality.

The following sequences may be started by applying an the external pulse or removing and re-applying the power (see “PulS” setting)

· **On delay (“on d”)**

The relay remains off for the period programmed into the “SEt” parameter whereupon it energises until pulsed or reset.

· **Interval (“int”)**

The relay energises immediately. After the period programmed into the “SEt” parameter has lapsed, it de-energises until the device is pulsed, or reset.

· **Repeating (“rEP”)**

The relay is energised for the period programmed into the “on t” parameter.Thereafter the relay de-energises for the “OF t” period.The device may be programmed to start with the off time first. (see “Firs” setting).

· **Time range “rAnge”**

(“on delay” and “interval” modes only)

Either hours and minutes (hh.mm) or minutes and seconds (mm.ss)

· **Timing value (“Set”)**

(“on delay” and “interval” modes only)

This is the period of the selected timing sequence. Depending on the selected time range, the value entered will represent hours and minutes, OR minutes and seconds.

· **“on” Time range “on r”**

(“repeating” mode only)

Either hours and minutes (hh.mm) or minutes and seconds (mm.ss)

· **Relay on time (“on t”)**

(“repeating” mode only)

This is the period the relay is energised in a repeating configuration. Depending on the selected time range, the value entered will represent hours and minutes, OR minutes and seconds.

· **“off” Time range “OF r”**

(“repeating” mode only)

Either hours and minutes (hh.mm) or minutes and seconds (mm.ss)

· **Relay off time (“OF t”)**

(“repeating” mode only)

This is the period the relay is de-energised in a repeating configuration. Depending on the selected time range, the value entered will represent hours and minutes, OR minutes and seconds.

· **Relay state at start-up (“FirS”)**

(“repeating” mode only)

When the device is configured to repeat, this setting determines whether the “on” or “off” cycle is performed first. Relay on (“on”), or relay off (“OFF”) at start-up or reset.

· **Wait for pulse (“PuLS”)**

(“on delay” and “interval” modes only)

This setting determines whether the device will start timing immediately at power up, or wait for an external pulse before starting the selected timing sequence. (“OFF” = Start timing immediately), (“on” = wait for first pulse). This parameter is disabled (OFF) if the timer function is set to repeat!

· **Pulse type (“P.TyP”)**

Set the device to recognize a pulse / reset when the terminals are opened (“OPEN”) or closed (“CLOS”).

· **Save timer status during power failure (“SAuE”)**

If set to “ON”, the device will continue timing where it left off after a power failure. “OFF” resets the timer whenever the power is removed.

The SAVE function is ONLY applicable when the power is removed DURING a timing cycle.

If the cycle was complete before the power was removed, the device will operate according to the PULSE parameter when the power is re-applied.

· **DUAL Display DEVICE format (“diSP”) for the upper display**

Lapsed time (“LA t”)

Period since the start of the current timing sequence.

Remaining time (“rE t”)

Period till the relay changes state.

· **SINGLE Display DEVICE format (“diSP”)**

· Lapsed time (“LA t”)

Period since the start of the current timing sequence.

· Remaining time (“rE t”)

Period till the relay changes state.

· **Reset (“rESt)**

DUAL DISPLAY DEVICE: Press “▲” and “▼”

SINGLE DISPLAY DEVICE: Press SELECT,to reset all values to default.

Function default = “on delay”,
range default = min & sec,
timers default = zero,
display default = Lapsed time.

Programming example DUAL DISPLAY DEVICE:

Set the device for an interval time of 2 min and 10 seconds:

Press “↺” to display “Func”.

Press “▲” or “▼” to change the value to “int”.

Press “↺” to display “rAng”.

Use “▲” or “▼” to change the value to “nn.SS” (min & sec). Press “↺”. “Set” is displayed.

Use “▲” or “▼” to change the value to “2.10”.

Press and hold “↺” for 1 second to exit the menu.

Programming example SINGLE DISPLAY DEVICE:

Set the device for an interval time of 2 min and 10 seconds:

Press “MENU” to display “Func”.

Press “SELECT”. Use the “+” and “-” buttons to change the value to “int”.

Press “ENTER” to return to the menu. “rAng” is displayed. Press “SELECT”. Use “+” and “-” to change the value to “nn.SS” (min & sec).

Press “ENTER”. “Set” is displayed.

Press “SELECT”. Use “+” and “-” to change the value to “2.10”.

Press “ENTER”.

Press “BACK”.

Notes:

- If the pulse function is turned on, pulses received while the timing cycle is active, will be ignored. If the pulse function is off, pulses received will reset the current timing cycle.
- When programming the timing values, the data pointer in the lower right corner of the display is lit when the current timer’s range is hours & minutes.
- When the time is displayed (lapsed or remaining), the data pointer in the lower right corner of the display flashes when the value is in the hours & min range.

Specifications:

Timing range:	min & sec : 59 min : 59 sec
	hours & min: 99 hours : 59 min
Accuracy:	0.05%
Display Resolution:	seconds or minutes
	(depending on time range)
Input voltage:	±15% of rated input
Led indication:	Relay status
Response time:	0.5 sec (power supply reset)
	0.05 sec (reset pulse)
Minimum pulse width	45ms
	(close or open – see menu options)
proximity input:	**NPN** (10 to 30V supply incorporated)

Menu operation (single display device):

All adjustments are made via the three front mounted buttons.

Press the “MENU” button repeatedly until the desired setting is reached, press “SELECT” to display the current value of the selected parameter, or sub menu (if applicable).

The “+” and “-” buttons are used to change the value.

“ENTER” will return the device to the menu.

The “BACK” button will exit the menu.

Menu operation (dual display device):

Press the menu “↺” button repeatedly until the desired setting is reached.

The “▲” and “▼” buttons are used to change the value.

“↺” will display the next menu item.

To exit the menu hold “↺” button for 3 seconds.

Menu options:

Exit the menu before making the following adjustments.

Lock / unlock parameters:
(default: unlocked)

Press “BACK” (“▼”), **then** “ENTER” (“↺”) and hold the 2 buttons until the desired option is displayed.

The display cycles between “Loc” (no changes allowed) & “u.Loc” (parameters may be adjusted)

Full / reduced menu (default: Full)

Press “SELECT”(“▲”), **then** “ENTER”(“↺”) and hold the 2 buttons until the desired option is displayed.

The display cycles between “rEdu” (limited menu) & “Full” (all parameters are accessible)

Access Code: (default: no code)

Once the above options have been set as required, Press “BACK” and “SELECT” (“▼” and “▲”) simultaneously until “CODE” is displayed.

Now use the “+” & “-” (“▲” and “▼”) to enter a code.

Once a code is entered, access to the options above is not permitted.

To clear the code, re-enter the same code again.

If the code is forgotten. Press and hold “+” & “-” (“▲” and “▼”) until “CODE” is displayed while re-applying power to the device.

Please Note (for 1 and 2 relay devices ONLY):

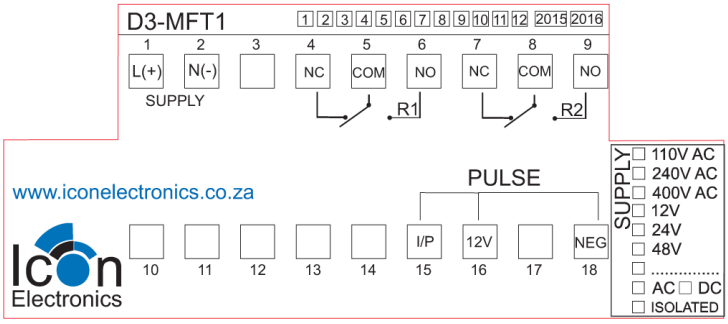
- As a power saving feature, the display dims if settings are not being made.
- Even though the device seems to operate correctly, the relay(s) will not energise if the input voltage is below the operating voltage.

12 Month guarantee:

Our product is guaranteed for a 12 (twelve) month period from date of purchase. This guarantee is valid for defects arising from failure during specified conditions. This guarantee does not cover damage due to abuse, tampering or improper installation. Our company does not accept liability for any consequential damage or loss arising from product malfunction. Should this product prove to be defective, kindly return for inspection or repair.

Relay specifications:

Contact rating: 10A 250 VAC 2500VA
Mechanical life: 30 million operations
Electrical life: 250 000 operations (at maximum load)


D3-MFT1
1 2 3 4 5 6 7 8 9 10 11 12 2015 2016
1 2 3 4 5 6 7 8 9
L(+) N(-) NC COM NO NC COM NO
SUPPLY
R1
R2
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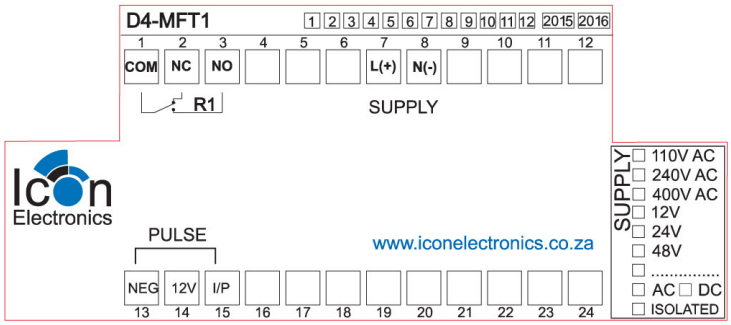
PULSE
I/P 12V NEG
10 11 12 13 14 15 16 17 18
SUPPLY
110V AC
240V AC
400V AC
12V
24V
48V
.....
AC DC
ISOLATED
Icon Electronics


D4-MFT1
1 2 3 4 5 6 7 8 9 10 11 12 2015 2016
1 2 3 4 5 6 7 8 9 10 11 12
COM NC NO L(+) N(-)
R1
SUPPLY
Icon Electronics
PULSE
NEG 12V I/P
13 14 15 16 17 18 19 20 21 22 23 24
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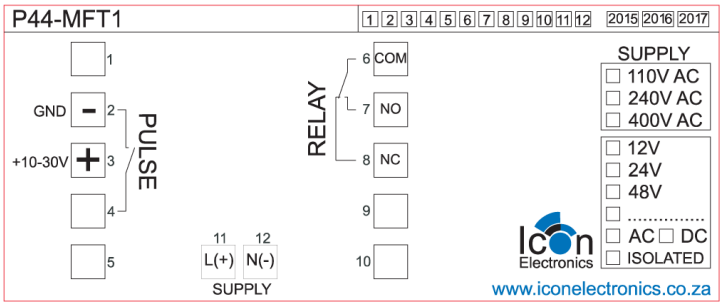
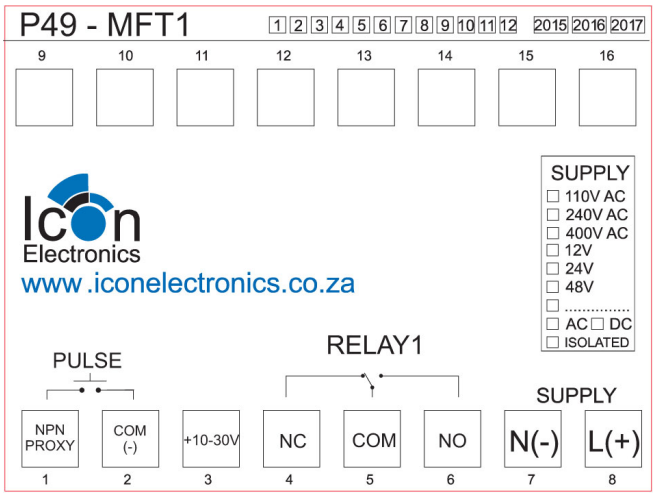
SUPPLY
110V AC
240V AC
400V AC
12V
24V
48V
.....
AC DC
ISOLATED


P44-MFT1
1 2 3 4 5 6 7 8 9 10 11 12 2015 2016 2017
1
GND 2
+10-30V 3
4
5
PULSE
RELAY
6 COM
7 NO
8 NC
9
10
11 12
L(+) N(-)
SUPPLY
Icon Electronics
www.iconelectronics.co.za
SUPPLY
110V AC
240V AC
400V AC
12V
24V
48V
.....
AC DC
ISOLATED


P49 - MFT1
1 2 3 4 5 6 7 8 9 10 11 12 2015 2016 2017
9 10 11 12 13 14 15 16
Icon Electronics
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SUPPLY
110V AC
240V AC
400V AC
12V
24V
48V
.....
AC DC
ISOLATED
PULSE
RELAY1
SUPPLY
NPN PROXY
COM (-)
+10-30V
NC COM NO
N(-) L(+)
1 2 3 4 5 6 7 8