

PLCFC INSTALLATION AND MAINTENANCE:

The PLCFC is a plug and play systems with an operating voltage of 110V to 240V and can be used with any Nex Flow product for on off control. The sending range is 0 to 600 mm with the diffuse sensor or 0 to 3000 mm with a reflector type sensor.

The unit is capable of handling up to 4 external devices (solenid valves) and 8 input devices (ie: optical sensors). One optical sensor is included with the unit to service part present detection.

Once the part is wthin the sensor range it will trigger the PLC to open the solenoid valve on output 1. As long as the part is present the solenid valve remains open and compressed air will flow through the solenoid valve. Once the part present signal is off, (part is outside of the sensor range) the solenoid valve will close.

The timer is normally set to about a 2 second delay to shut off the solenoid valve. The time can be adjusted inside the panel.

Info on the timer attached.

The PLCFC is maintenance free and requires no servicing except to keep the sensor clean. Do not use any strong solvents or cleaners on the sensor.

Ordering information

Example: 86 series multi-function timer module, (12...240)V AC/DC supply voltage.

8 6 . 0 0 . 0 . 2 4 0 . 0 0 0 0

Series

Type

0 = Multi-function (AI, DI, SW, BE, CE, DE, EE, FE)

3 = Bi-function (AI, DI)

No. of poles

See 40, 44, 46, 55, 56, 60 and 62 series relays

Poles for chosen relay/socket combination according to chart below

Supply voltage

024 = (12...24)V AC/DC (86.30 only)

120 = (110...125)V AC (86.30 only)

240 = (12...240)V AC/DC (86.00 only)

240 = (230...240)V AC (86.30 only)

Supply version

0 = AC (50/60 Hz)/DC

8 = AC (50/60 Hz)

Combinations

| Number of poles | Relay type | Socket type | Timer module |
|-----------------|-------------------|-------------|--------------|
| 1 | 40.31 | 95.P3/95.03 | 86.30 |
| 1 | 40.61 | 95.P5/95.05 | 86.30 |
| 1 | 46.61 | 97.P1/97.01 | 86.30 |
| 2 | 40.52/44.52/44.62 | 95.P5/95.05 | 86.30 |
| 2 | 46.52 | 97.P2/97.02 | 86.30 |
| 2 | 55.32 | 94.P4/94.02 | 86.30 |
| 2 | 56.32 | 96.02 | 86.30 |
| 2 | 60.12 | 90.02 | 86.00/86.30 |
| 2 | 62.32 | 92.03 | 86.00/86.30 |
| 3 | 55.33 | 94.P3/94.03 | 86.30 |
| 3 | 60.13 | 90.03 | 86.00/86.30 |
| 3 | 62.33 | 92.03 | 86.00/86.30 |
| 4 | 55.34 | 94.P4/94.04 | 86.30 |
| 4 | 56.34 | 96.04 | 86.00/86.30 |

Technical data

EMC specifications

| Type of test | Reference standard | 86.00 | 86.30 | |
|---|-------------------------|--------------|---------------------------------|--|
| Electrostatic discharge | contact discharge | EN 61000-4-2 | 4 kV | n.a. |
| | air discharge | EN 61000-4-2 | 8 kV | 8 kV |
| Radio-frequency electromagnetic field (80 ÷ 1000 MHz) | EN 61000-4-3 | 10 V/m | 10 V/m | |
| Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals | EN 61000-4-4 | 4 kV | 2 kV | |
| Surges (1.2/50 µs) on Supply terminals | common mode | EN 61000-4-5 | 4 kV | 2 kV |
| | differential mode | EN 61000-4-5 | 4 kV | 1 kV |
| Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals | EN 61000-4-6 | 10 V | 10 V | |
| Radiated and conducted emission | EN 55022 | class B | class B | |
| Other data | | 86.00 | 86.30 | |
| Current absorption on signal control (B1) | mA | 1 | — | |
| Power lost to the environment | without contact current | W | 0.1 (12 V) - 1 (230 V) | 0.2 |
| | with rated current | | See 56, 60 and 62 series relays | See 40, 44, 46, 55, 56, 60, 62 series relays |

Times scales

| | | | | | | |
|-------------|-------------|------------|---------------|--------------|-------------|------------|
| | | | | | | |
| (0.05...1)s | (0.5...10)s | (5...100)s | (0.5...10)min | (5...100)min | (0.5...10)h | (5...100)h |

NOTE: Time scales and functions must be set before energising the timer.

To achieve the minimum time setting of 0.05 seconds it is necessary to use one of the functions with control signal.

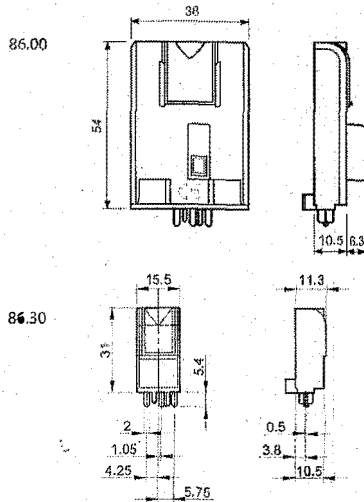
When setting very short times it may be necessary to take into account the operate time of the relay used.

Timer modules for use in conjunction with relay & socket.

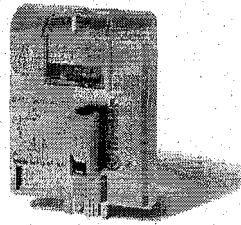
86.00 - Multi-function & multi-voltage timer module

86.30 - Bi-function & multi-voltage timer module

- Timer module type 86.00 for 90, 92, 96 series sockets and type 86.30 for 90, 92, 94, 95, 96, 97 series sockets
- Wide supply voltage range:
12...240 V AC/DC (86.00)
12...24 V AC/DC or 230...240 V AC (86.30)
- LED indicator



86.00



86.30

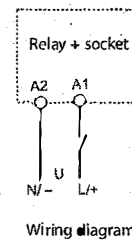
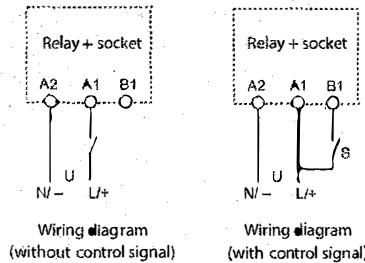


- Time scale: from 0.05 s to 100 h
- Multi-function
- Plug-in for use with 90.02, 90.03, 92.03 and 96.04 sockets

- Time scale: from 0.05 s to 100 h
- Bi-function
- Plug-in for use with 90.02, 90.03, 92.03, 94.P3, 94.P4, 94.02, 94.03, 94.04, 95.P3, 95.P5, 95.03, 95.05, 96.02, 96.04, 97.P1, 97.P2, 97.01 and 97.02 sockets

- AI:** On-delay
- DI:** Interval
- SW:** Symmetrical flasher (starting pulse on)
- BE:** Off-delay with control signal
- CE:** On- and off-delay with control signal
- DE:** Interval with control signal on
- EE:** Interval with control signal off
- FE:** Interval with control signal on and off

- AI:** On-delay
- DI:** Interval



Contact specification

| | |
|---|-----------|
| Contact configuration | |
| Rated current/Maximum peak current | A |
| Rated voltage/Maximum switching voltage | V AC |
| Rated load AC1 | VA |
| Rated load AC15 (230 V AC) | VA |
| Single phase motor rating (230 V AC) | kW |
| Breaking capacity DC1: 30/110/220V | A |
| Minimum switching load | mW (V/mA) |
| Standard contact material | |

See 56, 60 and 62 series relays
Note: Do not use with relays 62.3x.x012.x300 and 62.3x.x012.x600

See 40, 44, 46, 55, 56, 60 and 62 series relays

Supply specification

| | | | | | |
|-----------------------------------|-----------------|------------|------------|-----------|-----------|
| Nominal voltage (U _N) | V AC (50/60 Hz) | 12...240 | 12...24 | 110...125 | 230...240 |
| | V DC | 12...240 | 12...24 | — | — |
| Rated power AC/DC | W | 1.2 | 0.15 | | |
| Operating range | V AC (50/60 Hz) | 10.2...265 | 9.6...33.6 | 88...137 | 184...265 |
| | DC | 10.2...265 | 9.6...33.6 | — | — |

Technical data

| | | | | | |
|--------------------------------------|--------|--|--|---|--|
| Specified time range | | (0.05...1)s, (0.5...10)s, (5...100)s, (0.5...10)min, (5...100)min, (0.5...10)h, (5...100)h | | | |
| Repeatability | % | ± 1 | | | |
| Recovery time | ms | ≤ 50 | | | |
| Minimum control impulse | ms | 50 | | | |
| Setting accuracy full range | % | ± 5 | | | |
| Electrical life at rated load in AC1 | cycles | See 56, 60 and 62 series relays | | See 40, 44, 46, 55, 56, 60 and 62 series relays | |
| Ambient temperature range | °C | -20...+50 | | | |
| Protection category | | IP 20 | | IP 20 | |

Approvals (according to type)



Functions

U = Supply voltage

S = Signal switch

— = Output contact

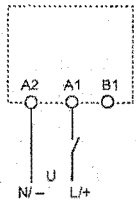
| LED Type 86.00 | LED Type 86.30 | Supply voltage | NO output contact |
|----------------|----------------|----------------|---------------------------|
| | | OFF | Open |
| | | ON | Open |
| | | ON | Open (Timing in Progress) |
| | | ON | Closed |

Without control signal = Start via contact in supply line (A1).

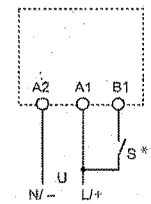
With control signal = Start via contact into control terminal (B1).

Wiring diagram

Without control signal



With control signal



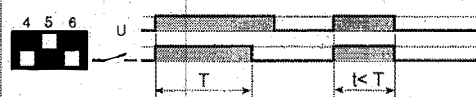
* With DC supply, positive polarity has to be connected to B1 terminal (according to EN 60204-1). Switch S should be exclusively used to provide the control signal to terminal B1. (Do not connect any other load at this point).

Type 86.00



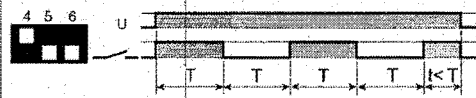
(AI) On-delay.

Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.



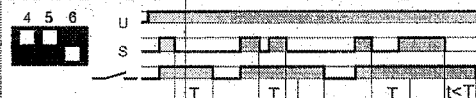
(DI) Interval.

Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.



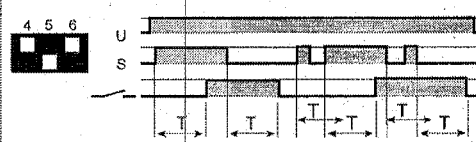
(SW) Symmetrical flasher (starting pulse on).

Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ratio is 1:1 (time on = time off).



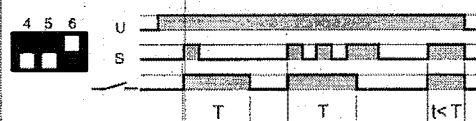
(BE) Off-delay with control signal.

Power is permanently applied to the timer. The output contacts transfer immediately on closure of the Signal Switch (S). Opening the Signal Switch initiates the preset delay, after which time the output contacts reset.



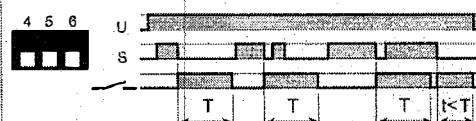
(CE) On- and off-delay with control signal.

Power is permanently applied to the timer. Closing the Signal Switch (S) initiates the preset delay, after which time the output contacts transfer. Opening the Signal switch initiates the same preset delay, after which time the output contacts reset.



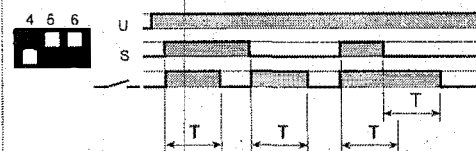
(DE) Interval with control signal on.

Power is permanently applied to the timer. On momentary or maintained closure of Signal Switch (S), the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.



(EE) Interval with control signal off.

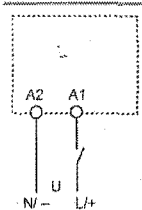
Power is permanently applied to the timer. On opening of the Signal Switch (S) the output contacts transfer, and remain so for the duration of the preset delay, after which they reset.



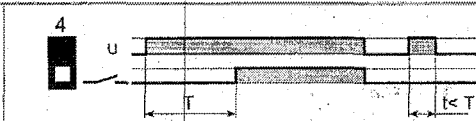
(FE) Interval with control signal on and off.

Power is permanently applied to the timer. Both the opening and closing of the Signal Switch (S) initiates the transfer of the output contacts. In both instances the contacts reset after the delay period has elapsed.

Wiring diagram

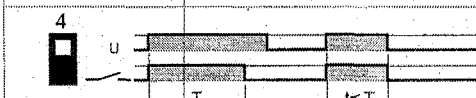


Type 86.30



(AI) On-delay.

Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs when power is removed.



(DI) Interval.

Apply power to timer. Output contacts transfer immediately. After the preset time has elapsed, contacts reset.