CONTROL EQUIPMENT
DIGITAL TIME SWITCHES WITH MENU DRIVEN PROGRAMMING

The Perry menu driven time switches are characterized by ease of programming, versatility and performance.

The four keys enable simple and intuitive navigation in the menu displayed on the backlit two text lines LCD display.

The internal calendar allows the execution of programs even only in certain periods of the year, and, with the ability to handle the holidays, the set programs can be interrupted in one or more periods also between two different years (eg. New Year holiday program).

The internal lithium battery allows to store programs and time and date settings up to 6 years also without mains connection.

With these time switches 64 ON-OFF programs can be memorized, choosing between standard, random, cyclical and holidays programs.

The range includes versions with 1 and 2 channels, daily and weekly, ready for the use of the programming key. In addition, the S versions offers synchronization with GPS receivers or DCF receivers with Frankfurt time.

The programming key 1PR EMD01 supplied separately, allows the transfer of data from one device to another or the input of programs executed by a PC, avoiding waste of time and mistakes.

For time absolute accuracy, two versions are available (1IO 5091S and 1IO 5291S) that can be synchronized with the radio time signal from Frankfurt or with a GPS receiver which allows to install the device anywhere in the world.

backlit display

SPECIAL FEATURES

- Navigation menu for easy and intuitive programming
- Relay with ZERO CROSSING to increase its lifetime and the power of the connected load.
- Holiday Programs: You can set one or more periods during the year and also between two years.
- Minimum Intervention: 1 second
- Memory capacity: 64 ON-OFF programs
- Power reserve: 6 years thanks to the lithium battery.
- Product warranty management: the internal clock is activated at first installation.
- Multilanguage menu: 11 languages available.
- MAINTENANCE mode: You can set a countdown (in hours) at the end of which a warning will appear on the display.
- Backlit display for perfect visibility in all conditions.
- Ready for EMD programming key to upload and / or download programs from a time switch to another.

MAIN FEATURES

High-contrast LCD display for excellent visibility in all conditions thanks to backlight
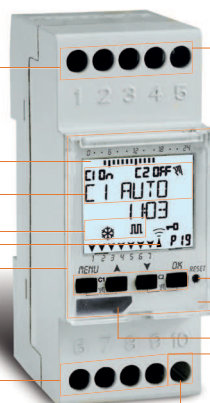
Clear display of the status of each contact

Wide choice of programs: standard, cyclic, random and holiday

GPS or DCF77 signal receiving indicator

Hinged plastic cover

1-2 changeover contacts

1 / 2 external inputs for the connection of one or more remote commands, for example: switches and push buttons.

1 / 2 external inputs for connection of DCF77 or GPS receiver (for 5091S and 5291S versions)

Permanent or temporary manual override, operated directly with a single touch

Sealable cover and keypad lock to prevent tampering by unauthorized personnel

Input for programming Key to run, copy or save programs

Terminals for cables up to 6 mm²

ACCESSORIES

1PR EMD01 "EMD" programming key

1PR AUSB01 USB adaptor for "EMD" key

Programming key to transfer programs from a time switch to another or from PC.

Programming software to create quickly programs on the PC even complex ones and then download them on the switch time via the programming key.

The antenna receiver of the time signal transmitted from the atomic clock in Frankfurt (1PARXDCF77) increases the digital clock accuracy.
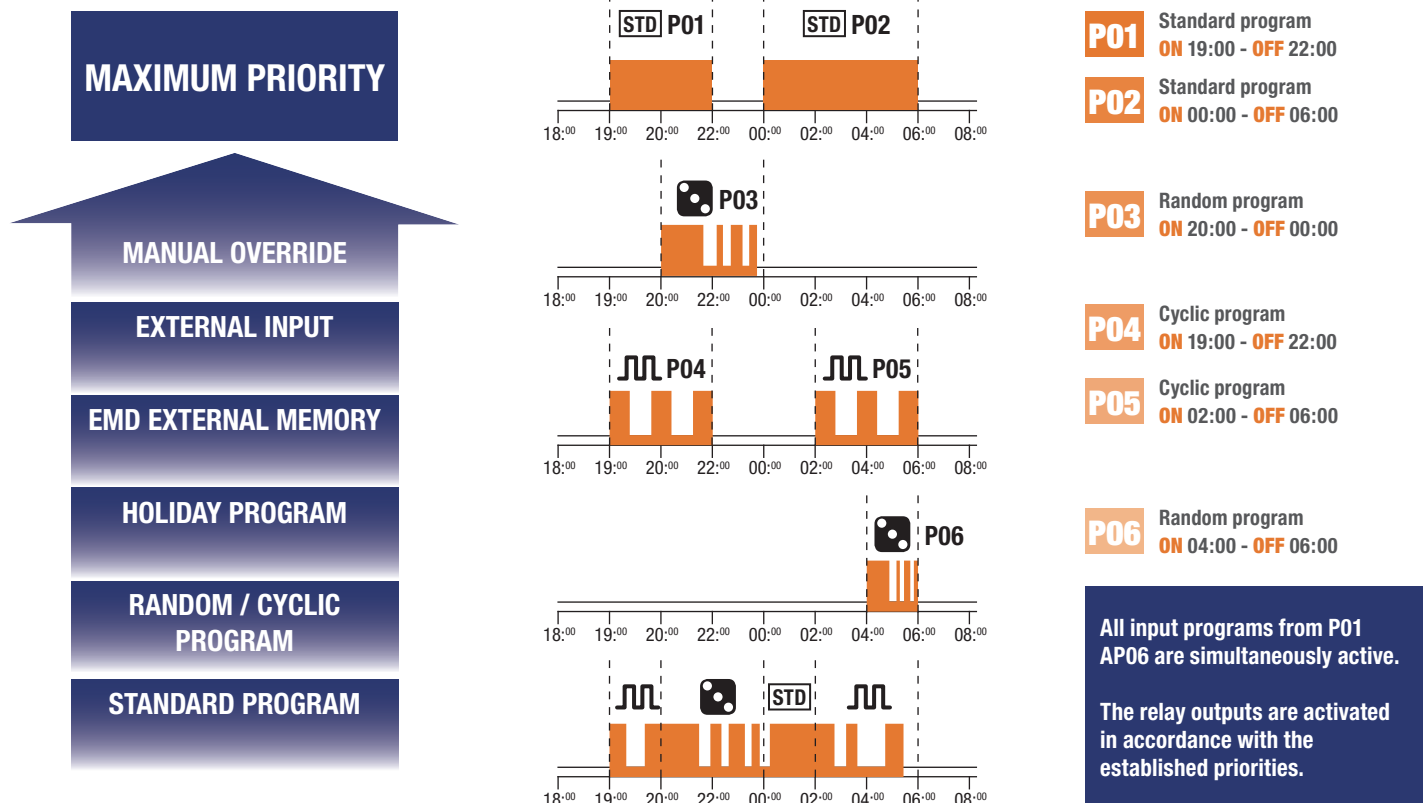
The GPS antenna (1PA RXGPS01), receives the time from the Global Position System and allows to get a more accurate value than terrestrial broadcasts and can be placed anywhere in the World.

MEMORY CAPACITY

The menu driven time switch can memorize up to 64 different programs (matchable in groups of days): Standard programs, random programs, cyclic programs, holiday programs.
The different types of programs are executed according to a different degree of priority.

	Standard program ON 19:00 - OFF 22:00
P01	Standard program ON 19:00 - OFF 22:00
P02	Standard program ON 00:00 - OFF 06:00
P03	Random program ON 20:00 - OFF 00:00
P04	Cyclic program ON 19:00 - OFF 22:00
P05	Cyclic program ON 02:00 - OFF 06:00
P06	Random program ON 04:00 - OFF 06:00

All input programs from P01 AP06 are simultaneously active.

The relay outputs are activated in accordance with the established priorities.

MAXIMUM PRIORITY

MANUAL OVERRIDE

EXTERNAL INPUT

EMD EXTERNAL MEMORY

HOLIDAY PROGRAM

RANDOM / CYCLIC PROGRAM

STANDARD PROGRAM

TECHNICAL SPECIFICATIONS

1IO	3090	3091	3291	5091S	5291S
Daily – monthly – yearly programming	●				
Weekly – monthly – yearly programming		●	●	●	●
Output channels n.	1	1	2	1	2
External input		●	●		
Programming key	opz.	opz.	opz.	●	●
Synchronizable with DCF antenna				●	●
Synchronizable with GPS antenna				●	●
Programming software for PC		●	●	●	●

Power supply voltage	230V a.c. 50 - 60Hz
Contact rated data	potential-free NC contact 16 (2) A / 250V a.c. Limited current NO contact zero crossing 16 (10) A / 250V a.c.
Max program number (ON-OFF)	64 (matchable in blocks of days)
ON - OFF minimum connection time	1 second
Displays	1" 1/3 backlit LCD display
Max. commutable power	3500 VA (for individual contact)
Power: Incandescent LPs	2300 W
Power: Fluorescent tube LPs, not compensated	1000 W
Power: Parallely comp. fluorescent tube LPs	500W (tot capacity 70 µF)
Power: Compact, fluorescent LPs	600W
Max cross-section of wires to terminals	6 mm^2
Protection degree (IP)	IP 20 - IP 40 (on rear of switchboard)
Type of output	terminals with captive screw
Insulation class	II ▫
ON / OFF relay signalling	ON / OFF in LCD display
Charge reserve	6 years
Type of reserve	LITHIUM battery
Time tolerance	+ - 0.5 sec/day
Operating temperature limits	0°C / +50°C
Storing temperature	-10°C / +65°C
Type of installation	DIN rail / on rear of switchboard
Housing	thermoplastic - grey RAL 7035
Type of use	civil / tertiary / industrial
Controls	multifunction keys (menu programming) confirmation key
Clock setting accuracy	digital for hours / minutes
Daylight saving time change	automatic
Programming	menu driven - programs protected in EEPROM
Dimensions (L x W x H) mm	35 x 60 x 90

PROGRAMMING MENU

The programming of the time switch is simplified by the navigation menu. In fact, by acting on just four keys you can program 4 different types of interventions and check those already stored, in a simple and intuitive way.
You can edit or delete individual programs, and analyze how long the connected loads have been working as well as many other functions such as copying or saving programs from the programming key.

Languages

ITALIAN
ENGLISH
GERMAN
FRENCH
SPANISH
SWEDISH
PORTUGUESE
DUTCH
POLISH
RUSSIAN
GREEK

Menu

STANDARD PROG
RANDOM PROG
CYCLICAL PROG
HOLIDAY PROG
PROG LIST
DELETE
MANUAL
OPTIONS

Program STANDARD/RANDOM

ENTERING
- PROGRAM NO.
- CHANNEL (Only two-channel)
- DAY (Only weekly)
- TIME ON HH:MM:SS
- TIME OFF HH:MM:SS
- END/YEARLY

CHECK
EDIT
COPY
DELETE

Program CYCLICAL

ENTERING
- PROGRAM NO.
- CHANNEL (Only two-channel)
- DAY (Only weekly)
- TIME ON HH:MM:SS
- TIME OFF HH:MM:SS
- TIME ON
- TIME OFF
- END/YEARLY

CHECK
EDIT
COPY
DELETE

Program HOLIDAYS

ENTERING
- PROGRAM NO.
- CHANNEL (Only two-channel)
- TIME OFF HH:MM:SS
- DAY AND MONTH OFF
- TIME ON HH:MM:SS
- DAY AND MONTH ON

CHECK
EDIT
COPY
DELETE

List PROGRAMS

- CHECK
- EDIT
- DELETE

Deletion

- SINGLE PROGR
- ALL PROGR
- HOLIDAYS

Manual forcing

CHANNEL (Only two-channel)
AUTO
PERMANENT ON/OFF
TEMP ON/OFF

Options

LANGUAGE
DATE/TIME
EXT INPUT
MAINTENANCE
HOUR COUNTER
LIGHTING
WARRANTY

Date / Time

YEAR
MONTH
DAY
TIME hh:mm
TIME CHANGE
DAYLIGHT-SAVING/
SOLAR TIME

External input

CHANNEL (Only two-channel)
permanent ON/OFF
TEMPORARY ON/OFF
TIMER ON/OFF

Maintenance

C1 000000
C2 000000
(Only two-channel)

Hour counter

C1 000000
C2 000000
(Only two-channel)

Display lighting

- FIXED ON
- FIXED OFF
- TIMED 6SEC

Warranty

DAYS 0000

EMD external Flash Memory

- EJEa- EXECUTES FROM EMD
- SAVES ON EMD
- COPY TO CLOCK
- READS EMD
- SAVE ONLY HOLIDAYS
- COPY ONLY HOLIDAYS
- DELETE EMDCUTARDES DE EMD

Features are available exclusively in the presence of EMD key (option)

1IO 3090
Menu driven daily-yearly time switch 1 channel - 2 DIN

1IO 3091
Menu driven weekly-yearly time switch 1 channel - 2 DIN

1IO 3291
Menu driven weekly-yearly time switch 2 channels - 2 DIN

1IO 5091S
Menu driven weekly-yearly time switch 1 channel with programming key - synchronizable with DCF and/or GPS time signal - 2 DIN

1IO 5291S
Menu driven weekly-yearly time switch 2 channels with programming key - synchronizable with DCF and/or GPS time signal - 2 DIN

ACCESSORIES

1PR EMD01 "EMD" programming key

External memory to upload / download programs

1PR AUSB01 USB adapter for "EMD" key

USB adapter to connect the "EMD" programming key to the PC and upload programs

1IO SW001 Programming software for PC

It allows the programming on your computer. The created programs can be saved, sent via e-mail, printed or transferred to the time switch via the "EMD" programming key.

PROGRAMMING SOFTWARE

The **1IO SW001** programming software allows you to set programs quickly and conveniently on a computer.
The programs, once created, can be printed, saved to a file, sent by e-mail or transferred to the time switch via the EMD01 memory key.
The transfer of the programs on your Memory Key is made via the USB adapter **1PR AUSB01**.
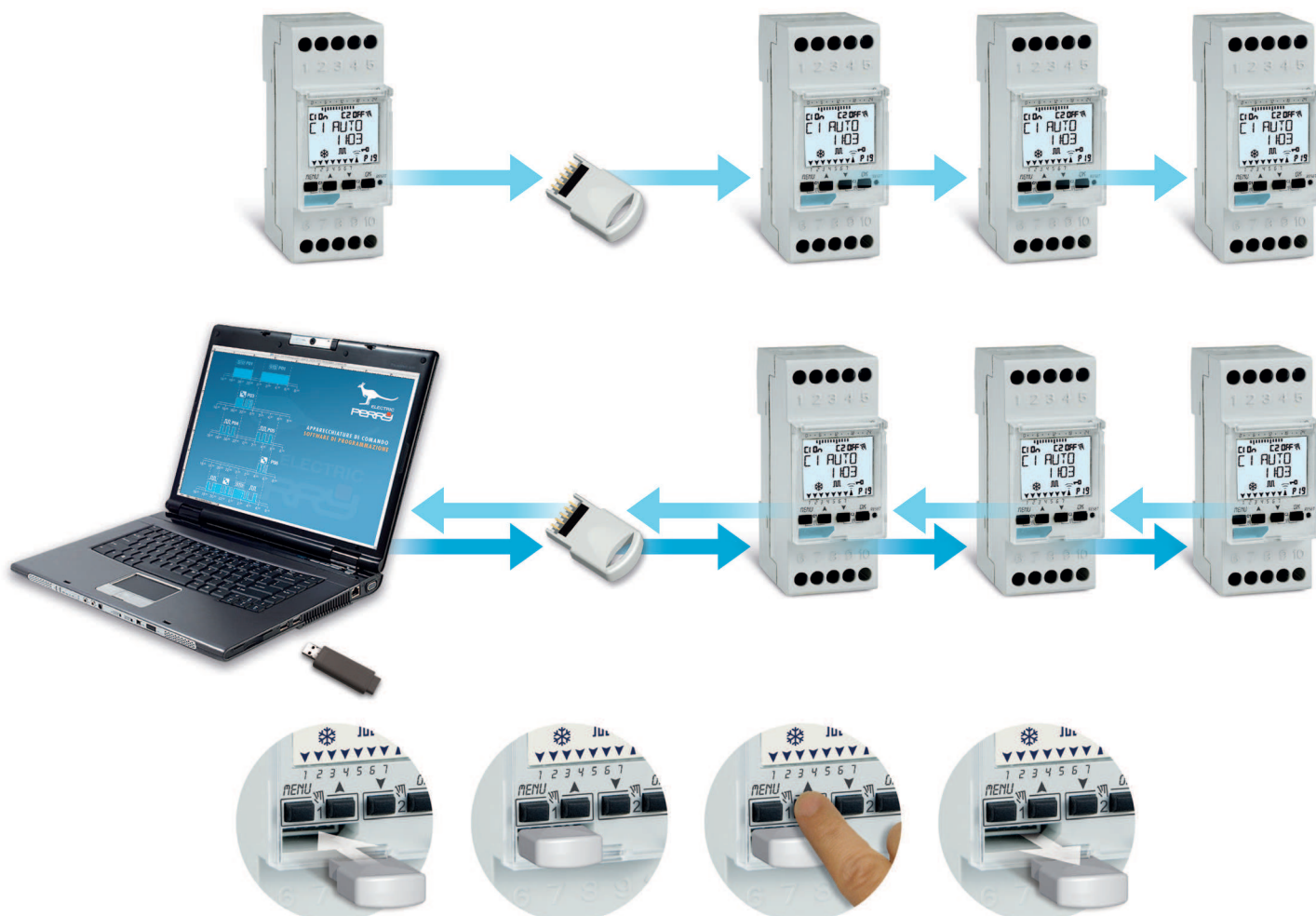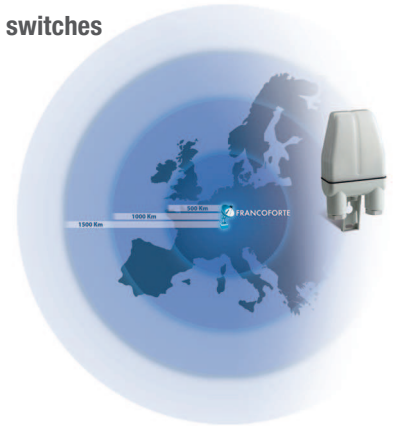
DCF TIME SIGNAL RECEIVER

The DCF77 station, which is managed by the Physikalisch-Technische Bundesanstalt, is widely used in various countries. The abbreviation means: D=Deutschland (Germany), C=long-wave signal, F=Frankfurt, 77=Frequency equalling 77.5 kHz.
The time reference is kept by an atomic clock and spread from Mainflingen, about 25 km far from Frankfurt.
The signal can be received from a 2000 km distance. Two independent 50 kW transmitters are used to assure service continuity.

1PA RXDCF77 Time signal receiver from Frankfurt for synchronized time switches

Power supply 230V a.c. 50/60Hz Wall-mounted or pole installation
BUS output signal
Protection degree IP 65
Wiring with shielded cable
diameter 7-11mm
Anti-UV opaline housing
wiring with cables up to 2.5 mm^2
Can be connected to max no. 10 time switches
LED intervention signalling
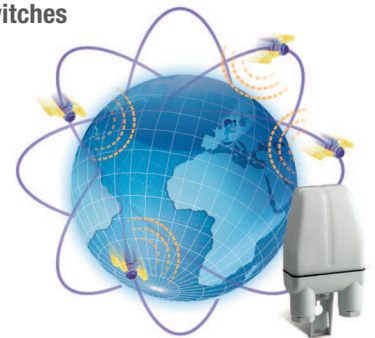Dimensions (L x W x H) 72 x 37.5 x 147 mm

GPS TIME SIGNAL RECEIVER

Some clocks receive the time by the Global Positioning System, which offers a more precise value with respect to terrestrial transmissions. The GPS system combines the time supplied by different atomic clocks installed in system satellites and a network of terrestrial stations; it establishes and corrects errors. As time is simultaneously obtained by different sources, the clock can automatically compensate propagation delays and other problems, by reaching an accuracy that is lower than a microsecond in optimal conditions.

1PA RXGPS01 Satellite GPS time signal receiver for synchronized time switches

Power supply 230V a.c. 50/60Hz Wall-mounted or pole installation
BUS output signal
Protection degree IP 65
Wiring with shielded cable
diameter 7-11mm
Anti-UV opaline housig
wiring with cables up to 2.5 mm^2
Can be connected to max no. 10 time switches
LED intervention signalling
Dimensions (L x W x H) 72 x 37.5 x 147 mm

The accuracy of time synchronization together with the minimum programming terms (seconds) allow the installation of the product for the activation of activity beginning/end signals in: schools, factories, offices, etc.