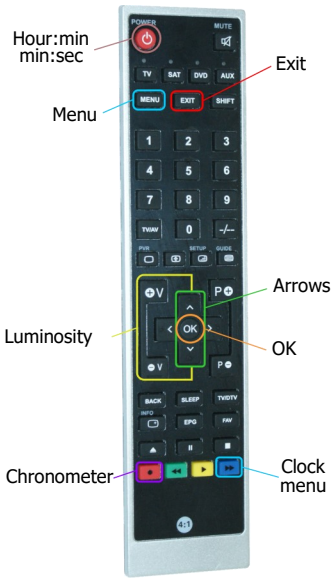
QUICK INSTALLATION GUIDE: CLOCK, CALENDAR AND CHRONOMETER

DISPLAY CONFIGURATION

Once the device is powered on, it goes directly to indicate the internal software version and then sequentially the data to be displayed that have been selected (current time HH:MM, date DD-MM and temperature in ºC). Fully configurable and controllable via PC and USB cable with the **MP Tools** software (available on our website) and access to the configuration of the main parameters via infrared control (optional). It is possible, from a weekly calendar, to set up to two time slots for switching on and off per day

It is possible as an option to mount, among others, a relay output module with 12 configurable alarms in clock mode and up to 15 presets in chronometer mode, a GPS module for time synchronization, a module for Ethernet TCP/IP or WiFi communication and SNTP synchronization. , etc.



CONFIGURATION AND CONTROL FROM THE IR REMOTE CONTROL:

Menu key: Main key used to access the configuration menu. Register number appears on flashing mode on the left and the character "A" on the right.
Keys "∧" , "∨": To go to the next register or to change the value of the selected register.
Keys "+V" , "-V": To increase or decrease the luminosity without entering on configuration menu.
Tecla "**OK**": To validate changes. A new press shows "ST ?" and a following confirms to save the changes made. For the registers related to the clock (1 to 5) and chronometer (47 to 55), the menu is not exited until the configuration sequence of the same has been completed. Register settings are not lost when power is removed from the equipment.
Keys "Exit": To exit the menu without saving the changes. Also to return to clock mode from chornometer mode.
Keys "⏭": Quick access to clock registers.
Keys "●": Switches from clock mode to chronometer mode.
Keys "⏻": Displays alternately with each press 'hour:minutes' or 'minutes:seconds'.

TABLE OF MENU REGISTERS FOR IR REMOTE CONTROL:

REG.	Value	Description	REG.	Value	Description
0	-	Test display	**34**	-	Shows the software version
1	0 a 99	Set the year	**35**	1 a 99	DTP address. Device identification number (ID)
2	1 a 12	Set the month	**36**	-	% of luminosity captured by the sensor
3	1 a 31	Set the day	**37**	-	% of instantaneous luminosity delivered by the sensor
4	0 a 23	Set the hour	**38**	-	Shows the internal temperature of the equipment
5	0 a 59	Set the minutes	**39**	-	Shows outside temperature
6	0 a 99	Brightness level (0:Auto; 1 to 99: Manual)	**40**	-	Shows the number of synchronized satellites (Only for GPS)
7	1 a 99	Minimum brightness (% of light defined for sensor)	**41**	-	Maximum temperature value reached inside the equipment
8	1 a 99	Maximum brightness threshold (%) defined for sensor	**45**	0 / 1	Shows clock-calendar or clock-calendar+chronometer (0=clock-calendar/1=clock-calendar+chronometer)
9	1 a 99	Speed of change of LED brightness according to external light	**46**	0 a 2	Chronometer work mode. 0=Up; 1=Down; 2=Up with final time
10	0 / 1	Enable alternative lighting that activates during set hours	**47**	0 a 23	(default time 1) Preset time 1 (asc./desc. chrono) (hours)
11	1 a 99	Alternative luminosity percentage	**48/49**	0 a 59	Preset time 1 (up/down chrono) (minutes and seconds)
12	0 a 23	Alternative brightness start time	**50**	0 a 23	Preset time 2 (down chrono) (hours)
13	0 / 1	Alternative brightness end time	**51/52**	0 a 59	Preset time 2 (down chrono) (minutes and seconds)
14	0 / 1	Shows or not the time in clock-calendar mode (0=NO/1=YES)	**53**	0 a 23	Preset time 3 (down chrono) (hours)
15	0 / 1	Time format (0=24H/1=12H)	**54/55**	0 a 59	Preset time 3 (down chrono) (minutes and seconds)
16	0 / 1	Shows or not the date in clock-calendar mode (0=NO/1=YES)	**62**	0 a 12	Selection of clock alarm number (activate relay 1).
17	0 / 1	Shows or not the temperature in clock-calendar mode (0=NO/1=YES)	**63**	0 / 1	Activate selected clock alarm (by default fixed from Monday to Sunday).
19	4 a 99	Time in seconds that the clock-calendar-temp is displayed	**64**	0 a 23	Define selected clock alarm minutes.
20	0 a 7	0:Random; 1:Immediate; 2:Ascending; 3:Descending; 4:Upward shutter; 5:Lower shutter; 6:Odometer; 7: Progressive brightness (7-segment clock only: 0, 1 and 7)	**65**	0 a 59	Define selected clock alarm minutes
21	1 a 99	Effect speed (pixels/s) (Only for matrix clocks)	**70**	1 / 0	Shows battery level. (1=OK/0=Replace)
23	-12 a +14	Define difference from default time zone (GMT+1)	**72**	1 / 0	Device On/Off auto. (0=Disabled 1= Enabled)
24	0 / 1	Enable/disable automatic time change (0=NO/1=YES	**73 a 76**	0-23/59	Hour/minute auto power on. Hour/minute auto off.
33	± 9ºC	Offset de temperatura. Suma o resta los grados indicados	**99**	-	Reset to return to factory settings

Chronometer:
To work with the chronometer press the "●" key. To exit press the "**Exit**" key.
When chronometer stopped, press the "**OK**" key to start.
When chronometer running, press "**OK**" again to pause.
When chronometer running, press the "●" key to reset the time to 0 or to a predefined value for down mode.
On down mode, press the "●"key tochange between the three predefined times

TECHNICAL SPECIFICATIONS

POWER SUPPLY AND FUSES
- **DMR12xF**:..... 88-264V AC 47/63Hz or 125-373V DC
- Maximum consumption 15W
- Recommended fuse ..... T 5A

VISUALIZATION
- Approx. max. reading dist. ..... ≤ 60m
- LED type..... Oval
- LED diameter ..... ∅5mm
- Digit number 4
- Digit height 120mm
- LED colors available ..... Amber, red, white, green, blue
  (by default Amber or red . for the rest consult minimum order)
- Automatic brightness intensity control or by software (0-100%)
- Viewing angle ..... 70º horizontal, 35º vertical
- Clock drift ..... < 2min./year
- .....
- SNTP sync period ..... 10 minutes

ENVIRONMENTAL CONDITIONS
- Working temperature ..... -10ºC ÷ 50ºC
- Relative humidity (non condensing) ..... <90% @ 40ºC
- Protection degree IP54

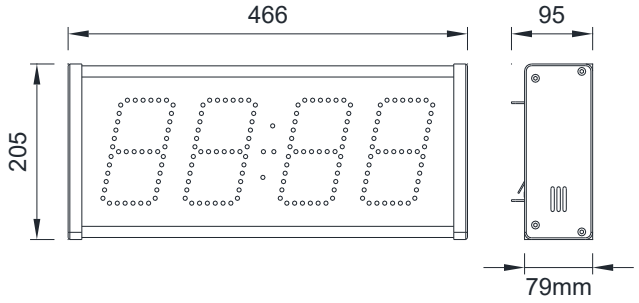
MATERIALS
- Front..... .transparent polycarbonate
- Case..... .Black aluminium
- Weight 4kg

COMUNICATION
- Ports ..... Mini USB (default)
- .....RS232/RS485, Ethernet (10/100)
- .....WiFi (availability depending on radio regulation of the country)
- Protocols ..... DTPM, SNTP
- Transmission rate .... 1200 to 115200 Baud (configurable)
- Remote IR control range.....max 10m (no sun lihgt)

TEMPERATURE PROBE
- Accuracy (-15ºC ÷ 60Cº) .....≤ ±1.5ºC

RELAY OUTPUTS
- Type and máximum current .....SPDT, 8A/250Vac

DIMENSIONS (mm)



ALIMENTATION 88-264V AC 125-373V DC 15W

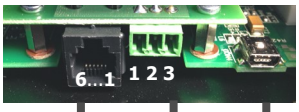
Recommended fuse: (**5A**)

WARNING Isolation: 3000Vrms for 1 minute to input/output terminals and power terminals

THE ADVANCED CONFIGURATION OF THE PARAMETERS OF THE MODULES IS DONE THROUGH THE "**MP Tools**" APPLICATION AVAILABLE ON OUR WEBSITE.

CONNECTIONS

OPTION /X:
(RS232 / RS485)



RS 232	
PIN 1	GND
PIN 2,3	N.C.
PIN 4	TxD
PIN 5	RxD
PIN 6	5V DC OUT

RS 485	
PIN 1	B
PIN 2	NC
PIN 3	A

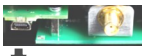
USB PORT

2 RELAY OUTPUTS

2 relay outputs	
PIN 1	NC 1
PIN 2	COM. 1
PIN 3	NO 1
PIN 4	N.C.
PIN 5	N.C.
PIN 6	N.C.

Depending on configurationeach relay is activated by the clock or the chronometer.

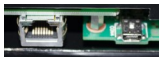
OPTIÓN /A: (GPS*)



GPS CONNECTOR

USB PORT

OPTION /NE:
(ETHERNET)



ETHERNET PORT **USB PORT**

OPTIÓN /NW: (WiFi)

WiFi PORT **USB PORT**

LED's WiFi STATUS:
OFF (conected) / **Blinking** (no conected, check WiFi settings):
Blink slow(OK) /**OFF** (fault) /
Blink fast (configuration mode).
Red: **Green**: **Amber**: Data transmisión.

Connection terminals can be directly reached through rear right side of the device as shown in figure above.

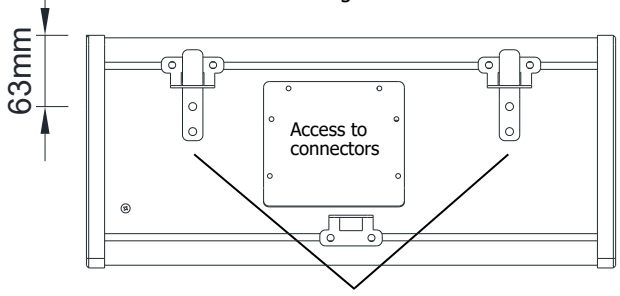
The instrument provides 1, 2, 3 or 4 rear connectors depending on the option that it is mounted. See figures. Connectors type are: RJ45 (Ethernet), Mini-B (USB), RJ12 (RS232), Mini combicon (RS485/2 relay outputs), SMA (GPS/WiFi anthena).
Cable alimentación implementado a través de prensaestopa.

Terminals for **RS485 and Digital inputs** connector admit cables with section from 0.14mm² up to 1.5mm² (AWG 28÷16).

*GPS OPTION: Install the supplied GPS antenna in a place with good reception, to allow the equipment to synchronize from the signal received from at least 3 satellites.

MOUNTING

The displays are supplied by default with the power cable, the remote control for its configuration (option), a mini USB cable, a temperature probe, WiFi/GPS antenna (option). For its installation, fix the brackets on the wall and hang the device



Rear view of the display with mounting brackets.

CE Conformity.

Directives	EMC 2014/30/EU	LVD 2014/35/EU
Standards	EN 61326-1	EN 61010-1

WARNING: If this instrument is not installed and used in accordance with this instructions, the protection provided by it against hazards may be impaired.

To meet the requirements of EN 61010-1 standard, where the unit is permanently connected to main supply, its is obligatory to install a circuit breaking device easy reachable to the operator and clearly marked as the disconnecting device.

IMPORTANT!
To guarantee electrical safety according to EN 61010-1 a protective external fuse against overcurrents must be installed.

According to Directive 2012/19/EU, you cannot dispose of this appliance as normal urban waste. You can return it, free of charge, to the place where it was purchased so that controlled treatment and recycling can be carried out.

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