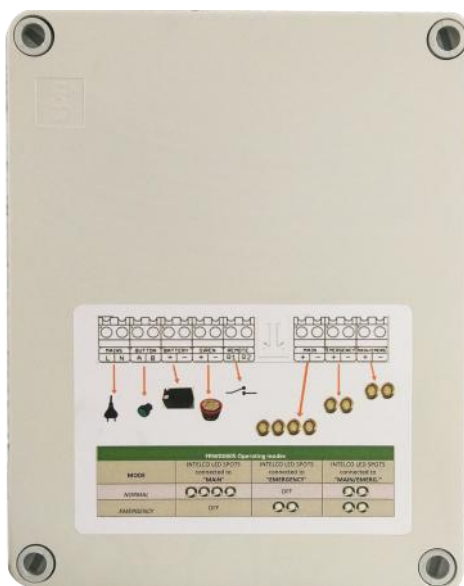




User Manual FRWD0805

LED Light Controller

with Dimmer And Timer Function



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Please read carefully the instructions in order to
get all the benefits of this device.

Led Light
Controller

FRWD0805

www.pelekis.eu

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General Description:

This device is intended for use in car LED lighting, when high quality constant main and backup lighting is needed.

It is equipped with a strong LED driver using offline switch mode power supply (SMPS) technology.

Also Include various protection circuits, main/battery fast backup switch-over, microcontroller based charger, 12V SLA type battery, LED ECO dimmer with programmable delay and separate remote input and continuous battery monitoring.

Specifications:

	Counts	Unit	Tolerance
Mains AC Input Voltage	230	V AC	-
Mains AC Input Frequency	50	Hz	50 to 60
Led Light Output Voltage ¹	12	V DC	+/- 5%
Led Light Output Current ¹	1,66	A	-
DC Output Ripple ¹	33	mV	Typical
Battery charging voltage ¹	13.8	V DC	-
Efficiency	80.2	%	At full load
Fuse rating	1	A	Fast blow
Standby duration ²	1.5	Hours	-
DC Output Overvoltage protection threshold	15	V	+/-2%
DC Output short circuit protection threshold	2	A	Typical
Mains AC Input over voltage protection	265	V AC	Typical
Mains AC Input under voltage protection	195	V AC	Typical
Enclosure	ABS	IP65	-
Dimensions (mm)	W110	L210	H70
Weight	980	gr	-

(1) The above numbers measured at connector MAIN. FOUR INTELCO LED lights connected to MAIN connector, and TWO INTELCO LED lights connected to MAIN/EMERGENCY connector. The battery status during measurements was 50%>BAT>25%. Current measurement was continuous DC.

(2) The above standby duration was measured using ONE INTELCO LED Light connected at EMERGENCY connector, and the lights brightness dropped to 30% after three hours of continuous battery supply.

Connections:

The FRWD0805 device can operate in various connection setups and with variations in load combinations (using INTELCO LED Lights). A typical connection setup consists of:

FOUR INTELCO LED Lights as “MAIN” light sources, **TWO INTELCO LED Lights as “MAIN/EMERGENCY”** light sources, **TWO INTELCO LED Lights as “EMERGENCY”** light sources.

A battery, a remote switch for controlling ECO DIMMER function, and a DC siren. The typical connection diagram is shown in Figure 1.

The operating modes truth table can be seen at Table1.

Figure 1

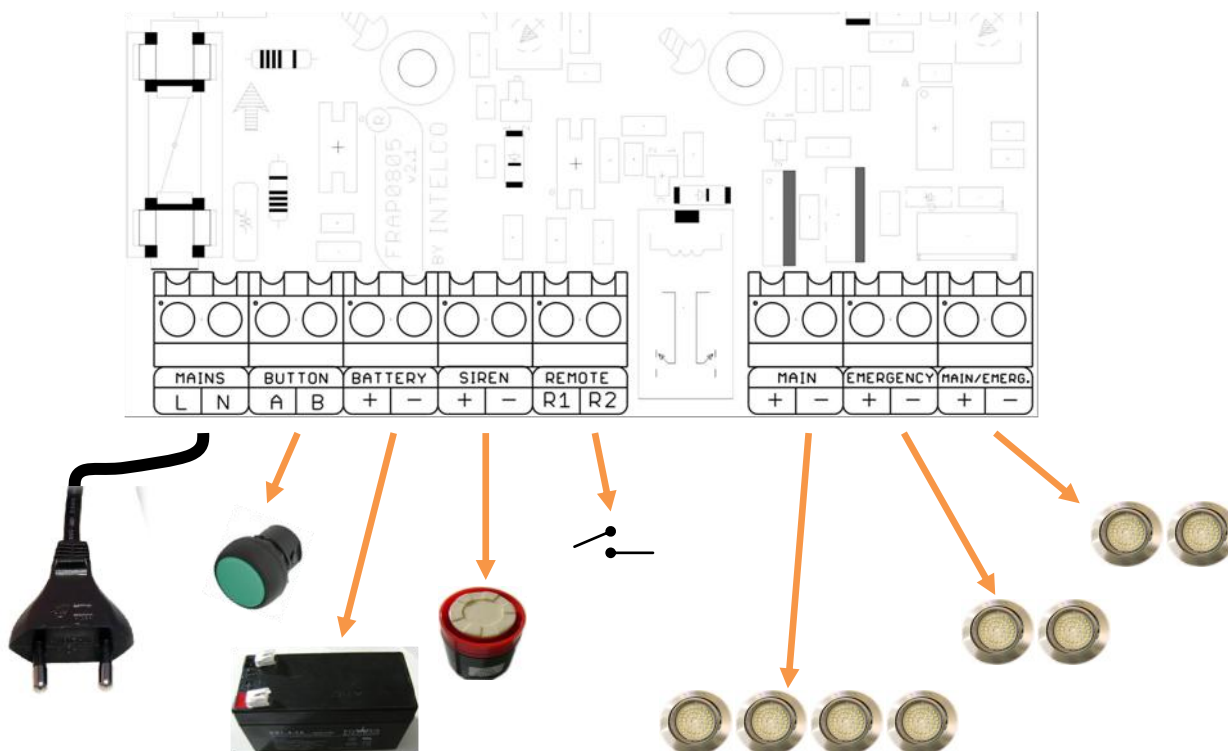






Table1. FRWD0805 Operating modes truth table

FRWD0805 Operating modes			
MODE	INTELCO LED Light connected to “MAIN”	INTELCO LED Lights connected to “EMERGENCY”	INTELCO LED Lights connected to “MAIN/EMERG.”
NORMAL		OFF	
EMERGENCY	OFF		

Operation:

Normal Mode:

During normal AC 230V mains operation, the FRWD0805 device will drive the 2 groups of INTELCO LED Lights connected to “MAIN” and/or “MAIN/EMERGENCY” connectors and they remain on. The 3rd group of INTELCO LED Lights connected to “EMERGENCY” remains off.

● Operation Mode 1 (Dip Switch 4=OFF) ¹:

- When “R1-R2” terminals are shorted, the lights will work at 100% with no dimming at all.
- When “R1-R2” terminals are not shorted, the lights will go to dimming after a delay period selected by dip switches 1-2-3 (see Figure 2). The dimming intensity can be changed by “DIM” trimmer.

● Operation Mode 2 (Dip Switch 4=ON) ¹:

- When “R1-R2” terminals are shorted, the lights will work with dimming selected by the “DIM” trimmer (see Figure 2).
- When “R1-R2” terminals are not shorted, the lights will turn off completely after a delay period selected by dip switches 1-2-3 (see Table 2).

Note: The “DIM” trimmer adjustment has no effect during time countdown (Operation Mode 1 & 2).

Any dip switch action during time countdown (Operation Mode 1 & 2) will stop counting and according to the operation mode will go to either Dimming (Operation Mode 1) or Off (Operation Mode 2) Led lights state.

(1) Operation mode dip switch (see Table 3).

Emergency Mode:

When the AC 230V mains fail, the FRWD0805 device automatically enters the Emergency Mode. The “MAIN” group of INTELCO LED lights is now off, and the “MAIN/EMERGENCY” and “EMERGENCY” groups are on.

At this mode the REMOTE” connector input is ignored and the lights will work at 100% with no dimming at all. When the AC 230V mains voltage is present again, the FRWD0805 device automatically returns to Normal Mode.

Dip Switch Settings:

Table 2

Dip Switch Number	T1	T2	T3	Delay time (min)
DIP SWITCH Position	0	0	0	0
	1	0	0	5
	0	1	0	10
	1	1	0	15
	0	0	1	20
	1	0	1	25
	0	1	1	30
	1	1	1	35

Table 3

Dip Switch 4	Mode
Off	Operation 1
On	Operation 2

Battery Charging:

- Use only 12V - 1,3Ah SLA Battery type.
- **Never** connect the battery terminals in reverse order.
- This device uses an LED to indicate Battery status (see Table 4).

Table 4

LED Activity	Battery status
ON	Battery charging progress >90%
BLINKING Rate: 0.5s on 0.5s off	Battery charging progress 75%>BAT>50%
OFF	Battery failure Or Battery disconnected

Battery Charging Curves:

