

TL-FP-3421

FRONT PANEL

ATN-TL-FP3421-UM v1.E

TL-FP-3421 v5 User Manual



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1. FRONT PANEL TL-FP3421

Front Panel unit monitors the equipment running status and, optionally, it turns on/off the system by managing the power electrical.

It also monitors the presence of power in the system and is provided with a tester button for checking that the three status LEDs are operative.

1.1.1 Front Panel overview

Front Panel TL-FP3421 has three LEDs that monitors the status of GALILEO GMS system, one more LED indicates if the system is power supplied or not. In the front panel there's also a single SW shutdown button, and the main power switch, for some model versions (v1 and v2)

In rear side there are 4 AC connectors, one earthing point and one DB25, DB9 or USB connector for data connections.



Figure 1-1: Front Panel overview (v1 Version)

1.1.2 Front Panel functional description

The following figure and associated table describes front panel interfaces and functionalities:

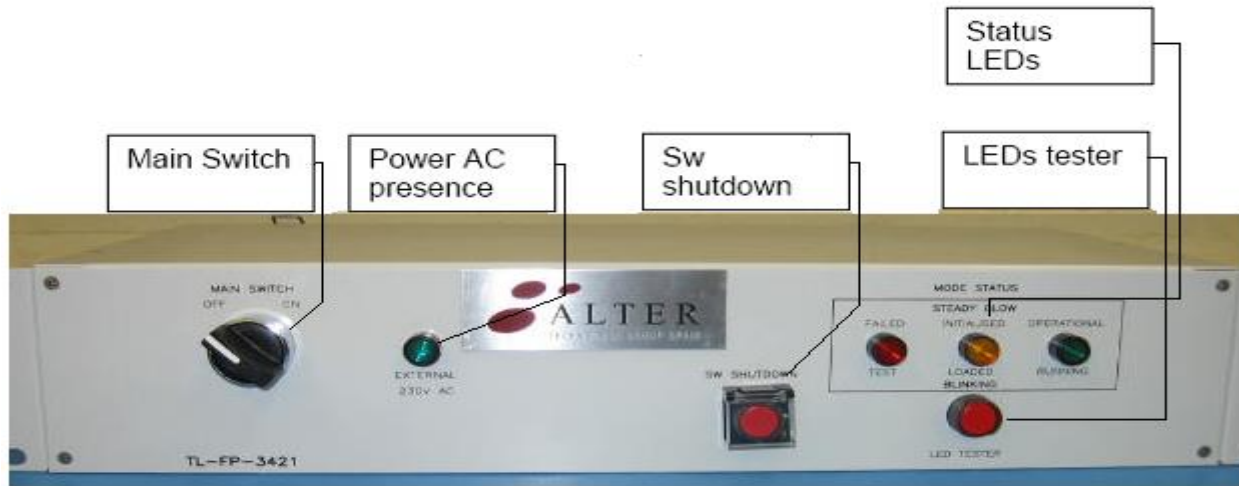


Figure 1-2: Front Panel (v1 Version) front lights and buttons distribution

FRONT PANEL BUTTON AND SWITCHES DESCRIPTION		
Button/Switch	LABEL	DESCRIPTION
Main Switch	Main Switch	Turns off the system in normally usage. When it is pressed, isolates the current between the outlets “A-B” and “C-D”
SW shutdown (optional)	SW shutdown (optional)	Launch the SW shutdown procedure of the system. (optional)
LED tester	LEDs tester	Verify the functional status of the status LEDs. When this button is pressed all status LEDs shall be illuminated.

Table 1-1: Front Panel buttons and switches description

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The LEDS are based on an internal PAL memory, programmed according to a truth table to show the following equipment status:

FRONT PANEL LIGHTS DESCRIPTION			
Light	LABEL	Status	DESCRIPTION
Power AC presence	External 230v AC	-	Indicates that there is 230 Vac of protected power supplying the system
Status RED	Failed	Steady glow	The system is in Failed state
Status ORANGE	Initialised	blinking	The system is in Initialised state
Status GREEN	Operational	Steady glow	The system is in Operational state
Status RED	Test	blinking	The system is in Test state
Status ORANGE	Loaded	Steady glow	The system is in Loaded state
Status GREEN	Running	blinking	The system is in Running state

Table 1-2: Front Panel Lights description

1.1.3 Front Panel rear connector distribution

The Front Panel manages equipment power electrical control, by using a double internal circuit short-break which controls 230Vac power supply before and after UPS unit

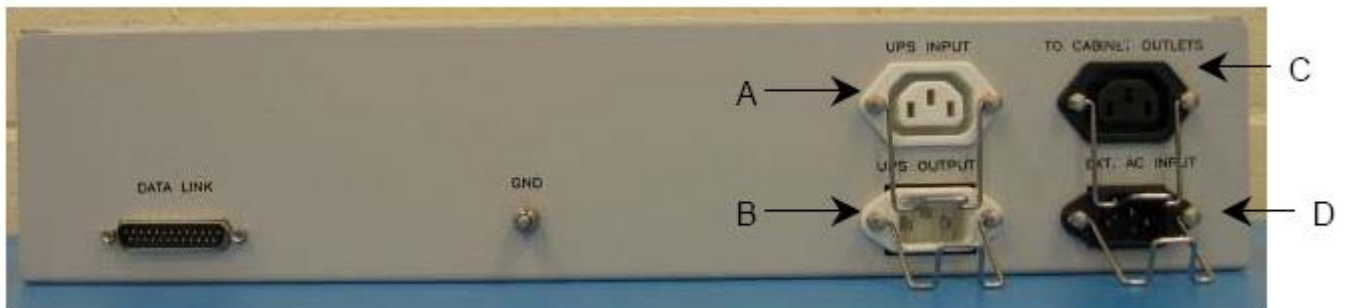


Figure 1-3: Front Panel rear connectors' distribution overview, version v1 DB-25.



Figure 1-4: Front Panel v5 DB9 modification and rear connectors' distribution overview

Register office: c/ Tomás Alba Edison, 4 – Isla de la Cartuja – 41092 Sevilla – SPAIN – Tel. +34 95 446 70 50 – Fax +34 95 446 73 39
 Madrid office: c/ de la Majada, 3 – Tres Cantos – 28760 Madrid – SPAIN – Tel. +34 91 804 18 93 – Fax +34 91 804 16 64



1.1.3.1 Power AC connectors

AC outlet description		
SOCKET	LABEL	DESCRIPTION
A	AC INPUT 1 MAIN	This socket provides AC power source to the first main electrical circuit input.
B	AC OUPUT 1 MAIN	This socket provides AC power source output to the cabinet electrical scheme.

Table 1-3: AC main 1 description

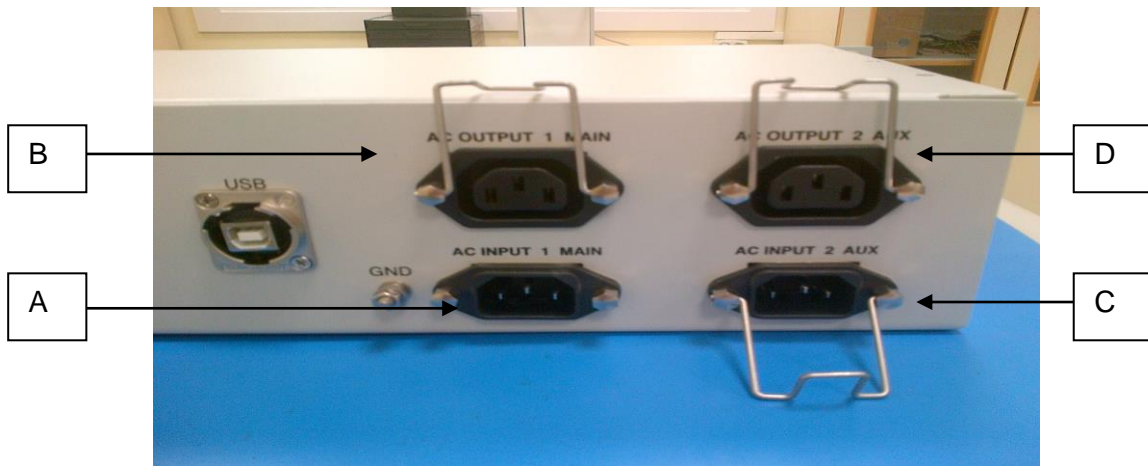


Figure 1-5: Front Panel rear connectors' distribution overview, version v3 USB

AC inlet description		
SOCKET	LABEL	DESCRIPTION
C	AC INPUT 2 MAIN	This socket provides AC power source to the secondary main electrical circuit input.
D	AC OUPUT 2 MAIN	This socket provides AC power source output to the cabinet electrical secondary or redundant scheme.

Table 1-4: AC main 2 description

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1.1.3.2 Data Link DB-9

The interface signals used by Front Panel are all collected in a single input/output *direct* serial cable DB9 to DB9, shipped with the Front Panel, with the following pins assignment:

DATA-LINK PINOUT		
DB9 Female	DB9 Male	DESCRIPTION
1	1	Ground signal
2	2	Tx Signal to the Front Panel
3	3	Rx signal from the Front Panel
5	5	Ground signal

Table 1-5: Front Panel Data-link pinout

1.1.4 Front Panel technical specifications

ELECTRICAL SPECIFICATIONS		
Power supply		220V AC
Connector types		2 IEC 320 c13 outlet
		2 IEC 320 c14 inlet
		One serial female DB-9 data connector
Signalling description		RS-232
Power consumption:		100 Watts Max
PHISICAL SPECIFICATIONS		
Dimensions:		436x200x88.9 mm
Weight:		2.4 kg
RAL		7021/7035
ENVIROMENTAL SPECIFICATIONS		
Operating	Temperature	10°C to 35°C
	Humidity	20% to 80% (non-condensation)
Storage	Temperature	-20°C to 60°C
	Humidity	10% to 90% (non-condensation)

Table 1-6: Front Panel TL-FP3421 Technical Specifications



1.1.5 Front Panel v3: LEDs Status truth table for LEDs signalling

The Front Panel has an internal board to translate RS232 into GPIO signalling input for the different LED status.

The status table is described hereby:

Front Panel V5

LED	LED Status	System Status Represented	GPIO proposed Signaling			HEX
			DATA_3	DATA_2	DATA_1	
All off	All off	Off mode	0	0	0	0
Red	Steady glow	Failed mode	1	0	0	4
Orange	Steady glow	Loaded mode	0	1	0	2
Green	Steady glow	Operational mode	1	1	0	6
Red	Blinking	Test mode	1	0	1	5
Orange	Blinking	Initialized mode	0	1	1	3
Green	Blinking	Running mode	1	1	1	7
All off	All off	Off mode	0	0	1	1

1.1.6 Front Panel v5: USB Linux driver operation

The model labelled as TL-FP-3421 v3 has a rear DB9 serial connector for direct translation into GPIO signalling.

This model is intended to connect PC or Server COTS host by using their RS232 port capability. The Front Panel has an internal converse board (manufactured by KMTronic) RS232 -> GPIO to adapt the signal to the LEDs electronic circuits.

Please, use the direct serial cable shipped with the Front Panel unit.

The serial RS232 properties are:

- 8 Data,
- 1 Stop,
- No Parity
- Baud rate : 9600
- No HW mechanism control

GPIO-00	GPIO-01	GPIO-02
DATA-1	DATA-2	DATA-3

Prior to send transmission commands open the serial connection.

Transmission Commands RS-232

GPIO-00 - DATA-1 (Less weight bit)

"FF 01 00" - OFF ("0" to set DATA-1 to 0)

"FF 01 01" - ON ("1" to set DATA-1 to 0)

GPIO-01 - DATA-2 (Medium Bit)

"FF 02 00" - OFF ("0" to set DATA-2 to 0)

"FF 02 01" - ON ("1" to set DATA-2 to 0)

GPIO-02 - DATA-3 (Mayor weight bit)

"FF 03 00" - OFF ("0" to set DATA-3 to 0)

"FF 03 01" - ON ("1" to set DATA-3 to 0)



Example:

The Front Pane receives the commands:

FF 01 00
 FF 02 01
 FF 03 01

Which commands 011, and provides Green LED steady, mode running.

LED		LED Status	Status	GPIO-03 DATA-1	GPIO-02 DATA-2	GPIO-01 DATA-3
	All OFF	Todos Apagados	Modo Off	0	0	0
LED-1	Red	Steady	Mode FAIL	0	0	1
LED -2	Orange	Steady	Modo START	0	1	0
LED -3	Green	Steady	Modo Running	0	1	1
LED -1	Red	Blinking	Modo Test	1	0	1
LED -2	Orange	Blinking	Modo LOAD	1	1	0
LED -3	Green	Blinking	Modo OPERATION AL	1	1	1
	All OFF	Todos Apagados	Modo Off	1	0	0