

WSM101 WIRELESS SERIAL MODULE



Tekon Electronics WSM101 Wireless Serial Module it is the wireless solution that ensures the reformulation of connections in applications with communication through serial protocols. Eliminate long wired connections between devices, using a dedicated wireless network created between WSM101 devices to carry out serial data communications. The operation profile allows WSM101 to operate in different architectures (peer-to-peer, master-slave). The user interface allows a quick analysis of the status of communications and the quality of the wireless signal.

Dimensions: 17,5 x 98 x 56,4 mm

Weight: Approx. 50g

Material: PA-UL 94 V0

Protection Index: IP40

KEY FEATURES

RS485 INTERFACE

UP TO 256 DEVICES IN RS485 DRIVER

9 STATUS LEDS

WIRELESS SIGNAL MONITORING

OPERATION AS GATEWAY OR REPEATER

HIGH EMC PERFORMANCE

REPLACE SERIAL CABLE CONNECTIONS

CONFIGURABLE OVER PC
TEKON CONFIGURATOR SOFTWARE

DS_DINR_WSM101_E01A

TECHNICAL SPECIFICATIONS

RADIO SPECIFICATIONS	868MHZ	915MHZ
Range ¹	Up to 4Km LoS	
Frequency band ^{2,3}	868,05 to 869,95 MHz	902,50 to 927,00 MHz
Number of channels	16	50 ⁴
Receiver sensitivity ²	-99 to -104 dBm	
Transmit power ²	25 to 27 dBm	27 dBm
Transmission rate ²	19 to 76,8kbit/s	76,8kbit/s
Encryption method	AES 128 (Advanced Encryption Standard)	
Modulation	GFSK	FSK
Antenna	Articulated dipole antenna	
Antenna connector	SMA	
Antenna impedance	50Ω	

SERIAL INTERFACE	
Type of serial port	RS485
Baudrate	4800, 9600, 14400, 19200, 38400, 57600, 115200
Stop Bits	One, Two
Parity	None, Even, Odd
Driver RS485	1/8 unit load, up to 256 devices

POWER SUPPLY	
Supply voltage	5 to 24V DC ± 5% USB
Maximum current	500mA DC @ 5V DC / 100mA DC @ 24V DC
Protection	Against reversed polarity Surge protection

OPERATING ENVIRONMENT	
Ambient temperature range	-20 to 80°C
Storage temperature range	-20 to 80°C
Relative humidity	≤95%, without condensation

INTERFACE	
Indication	Frontal Panel LED
Switches	External - Site Survey activation Load Default Factory Settings
Configuration	External micro USB connector

FACTORY DEFAULT SETTINGS	868 MHZ	915 MHZ
Profile	Repeater	
RF Channel	13	26
Wireless Net ID	16777217	
Baudrate	19200	
Parity	None	
Stop Bits	One	

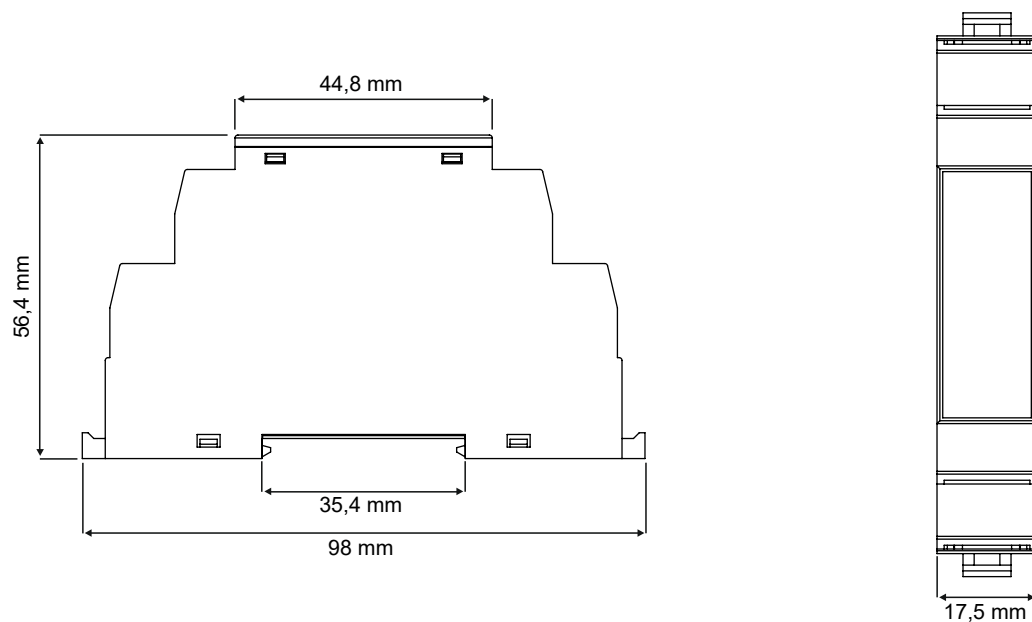
CASING	
Material	PA-UL 94 V0
Weight	Approx. 50g
Dimensions	See "Dimensional drawings"
Cross section	2.5 mm ²
Protection type	IP40

CERTIFICATIONS AND APPROVALS

EN 301 489-1 v2.2.0

TECHNICAL DRAWINGS AND INFORMATION

DIMENSIONAL DRAWINGS & INSTALLATION DIAGRAM



¹ Range depends on the RF propagation environment and Line of Sight (LoS). Always verify your wireless network's range by performing a Site Survey

² Dependent on radio channel selection

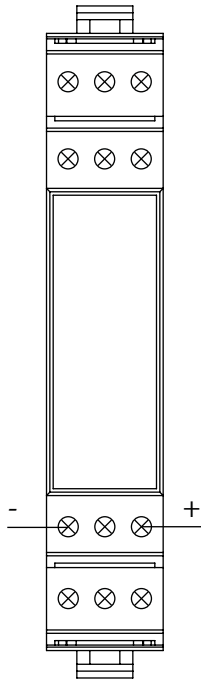
³ Configurable

⁴ In some countries, the frequency band admitted is not so extended as the default range.

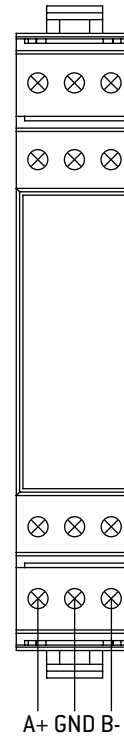
⁴ The radio frequencies admitted in Australia are available from channel 26 to channel 50.

ELECTRICAL CONNECTIONS

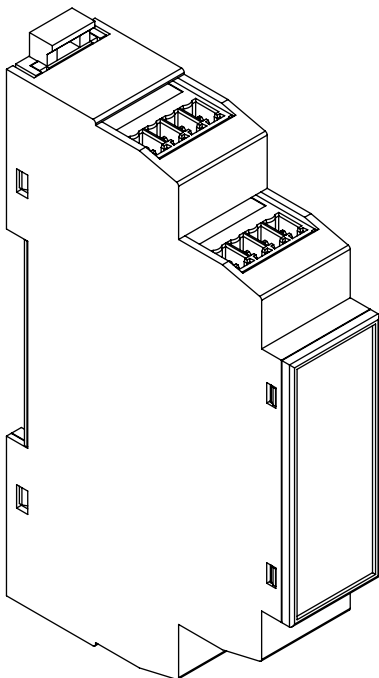
Power Supply



RS485



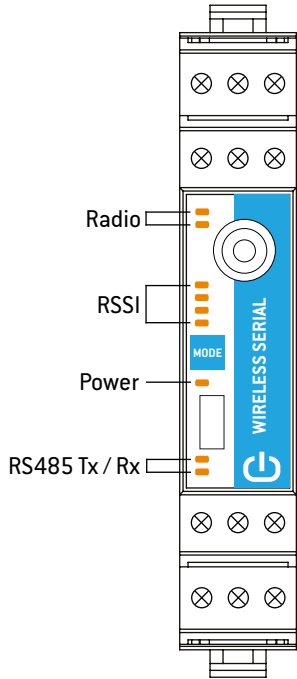
MODE BUTTON



OPERATION	ACTION	DESCRIPTION
SITE SURVEY	PRESS from 3 to 5 seconds to enter or exit Site Survey mode and release the button	- Transmitter will perform a site survey; - RSSI power level is indicated by the 4 blue LEDs;
LOAD LAST SAVED SETTINGS	PRESS from 5 to 10 seconds and release the button	- 4 RSSI LEDs will stay on, then turn off and will turn on one by one until they are all on again ; - Transmitter will load the last saved settings;
LOAD DEFAULT SETTINGS	PRESS at least 10 seconds and release the button	- Transmitter will load the default settings; - 4 RSSI LEDs will flash quickly;

Note: Operations button has only three possible actions. Any action beside the documented will have no effect on the transmitter

LEDS DESCRIPTION

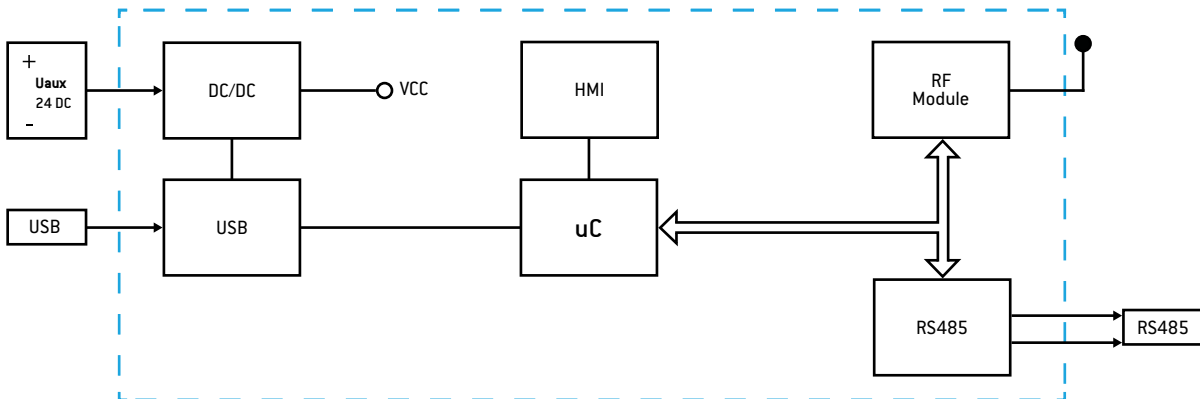


Mode	LEDs description
Configuration	Power LED flashes slowly; Radio LEDs are on;
Normal	Power LED is always on; RS485 Tx/Rx LEDs flash when a data transmission via RS485 occurs; Radio LEDs flash according to the wireless signal quality;
Site Survey	Power LED flashes quickly; Radio LEDs are on; RSSI LEDs will stay on according to wireless signal strength;
Error	All LEDs are on

RSSI LEDs	Description
	Low wireless signal
	Medium wireless signal
	Good wireless signal
	Excellent wireless signal

Note: If there is no wireless connection, the 4 RSSI LEDs will flash at 1Hz.

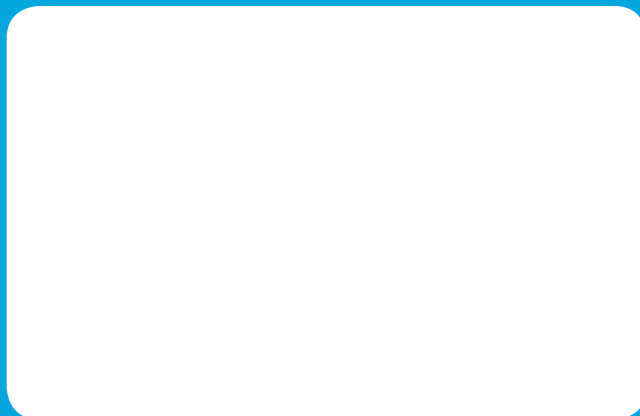
BLOCK DIAGRAM



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