

ESU 101

Environmental Sensor Unit



Device Description

ESU 101 is a cost-effective environmental sensor which is also equipped with Infra Red (IR) controller for split-type Air Conditioners. Thanks to its flexible design, ESU 101 has a learning mode which enables the device to be used with almost all split-type ACs. It has an RS-485 interface supporting Modbus/RTU protocol for SCADA applications.

Device Specifications

Supply Voltage Range	9-18/18-36 V _{DC} or 85 ~ 264 V _{AC}
Nominal Supply Voltage	12 / 24 V _{DC} or 230 V _{AC}
CPU	ARM Cortex-M4 32 Bit 180 Mhz
Flash	256 kB
RAM	128 kB
Watchdog Timer	System Reset / 5 sec
Power Consumption	0.46W 230V _{AC}
Internal Temperature Sensor	Temperature Range: -20 to 120 °C
Internal Humidity Sensor	Humidity Range: 0 to 100% RH
Infrared Transmitter Output Power	160mW
Infrared Transmitter Output Wavelength	940nm
Infrared Transmitter Carrier Frequency	38kHz
Infrared Receiver Input Frequency	38kHz
Relay Output Contact Current Rating	10A
Relay Output Maximum Switching Voltage	250VAC
Relay Contact Form	SPDT (1 Form C)

Wi-Fi Specifications

Wi-Fi Protocols	802.11 b/g/n
Frequency Range	2.4 GHz ~ 2.5 GHz (2400M ~ 2483.5M)
RF Certification	SRRC, FCC, CE (RED), IC, NCC, KCC, TELEC (MIC)
Wi-Fi Certification	Wi-Fi Alliance
Wi-Fi Mode	Station / SoftAP / SoftAP + Station
Security	WPA / WPA2
Network Protocols	IPv4, TCP / UDP / HTTP / FTP

Communication Specifications

Communication Protocols	Modbus-RTU (Slave)
Serial Interfaces	1 x RS-485, Micro USB C Type 2.0
RS-485 BaudRate	1200bps – 115200bps
USB Data Transfer Speed	480 Mbit/s

Environment Conditions

Standards	IEC 61326-1, EN 301489-1, IEC 61010-1, EN 60950-1
Operating Temperature	-25°C / +70°C
Storage Temperature	-40°C / +70°C
Operating Humidity	25% - 95% RH
Protection Class	IP20

Mechanical Specifications

Device Dimensions (W x H x D)	115mm x 83mm x 32 mm
Weight	100gr

