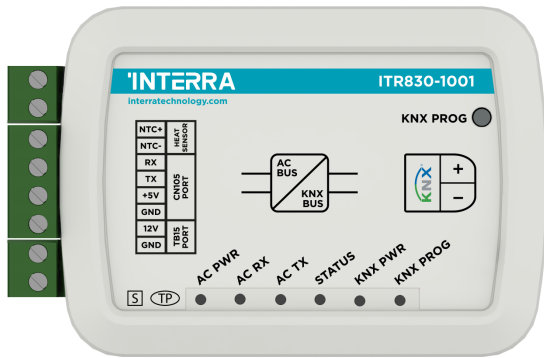


## Mitsubishi Electric AC - KNX Gateway v2



<b>Product Code</b>	ITR830-1001
<b>Power Supply</b>	KNX Power Supply
<b>Current Consumption</b>	5 mA
<b>Push Buttons</b>	1 x KNX Programming Button
<b>LED Indicators</b>	1 x KNX Programming LED 5 x Notification LEDs
<b>Type of Protection</b>	IP 20
<b>Mode of Commissioning</b>	S-Mode
<b>Maximum Air Humidity</b>	< 90 RH
<b>Temperature Range</b>	Operation (-10°C...70°C) Storage (-25°C...100°C)
<b>Colour</b>	Light Grey
<b>Dimensions</b>	88 x 62 x 27 mm (W x H x D)
<b>Certification</b>	KNX Certified
<b>Configuration</b>	Configuration with ETS

### DESCRIPTION

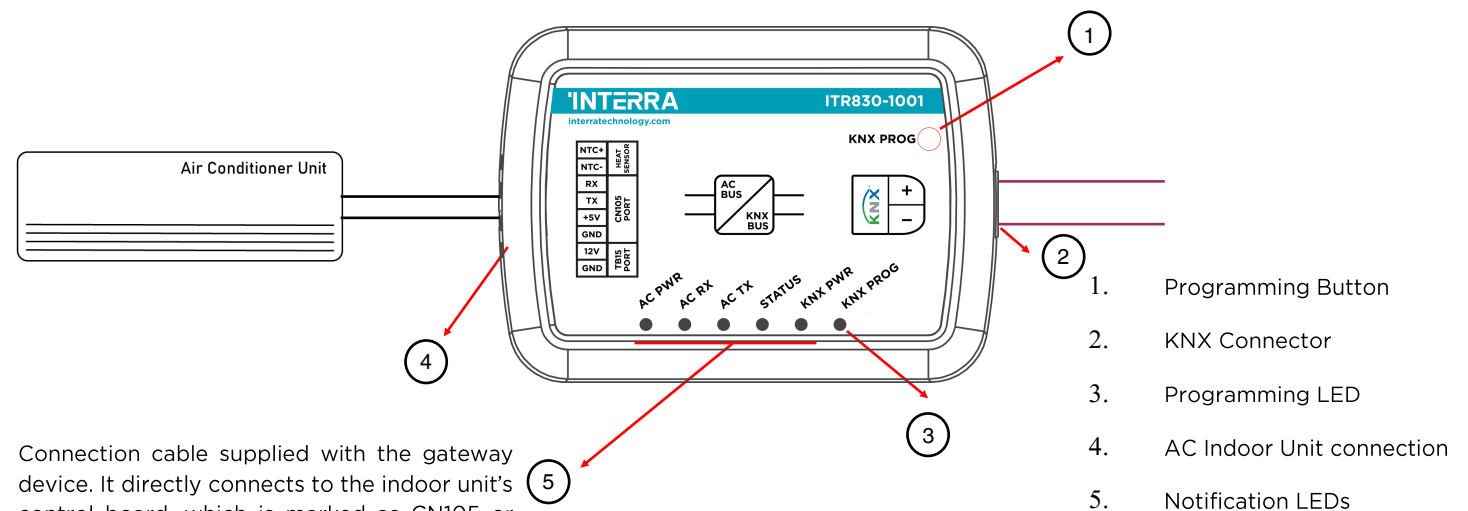
ITR830-1001 is used for monitoring and controlling all the functioning parameters of Mitsubishi Electric air conditioners with KNX.

ITR830-1001 has easy installation feature. It can be installed inside the own AC indoor unit, it connects one side directly to the electronic circuit of the AC indoor unit (cable supplied) and on the other side directly to the KNX bus.

### FUNCTIONS

- ITR830-1001 device, provides complete bi-directional integration of Mitsubishi Electric AC with KNX bus.
- The device provides extra communication objects for giving maximum flexibility.
- Includes 4 logical and 8 converter advanced parameters for energy savings, configurable scenes, temperature limits etc.
- The AC unit provides error notifications for errors that may occur in exceptional cases.
- An ambient temperature value is provided to the Air Conditioner via the TB15 port. The temperature value can be acquired from the Temperature input of the AC Gateway or, alternatively, through a KNX object from other KNX devices.
- The AC-KNX interface is equipped with Notification LEDs, which provide information about the status of both the device and the air conditioning unit.

### CONNECTION DIAGRAM



Connection cable supplied with the gateway device. It directly connects to the indoor unit's control board, which is marked as CN105 or TB15 connector.

## ERROR CODES

Error Code KNX	Error Description
403	Comms fault between boards - check inverter error detail for which 2 boards, check transformer, bus voltage and inter-connecting cables
900	Lossnay unit in test run
1102	High compressor discharge temperature. Discharge temperature has exceeded 110 C or more. Short of refrigerant. Discharge thermistor.
1111	Low pressure/temperature fault - check thermistors (TH2, TH3, TH4), gas charge, indoor fan, heat exchanger and filter.
1112	Low pressure/temperature fault - check thermistors (TH2, TH3, TH4), gas charge, indoor fan, heat exchanger and filter.
1113	Low pressure/temperature fault - check thermistors (TH2, TH3, TH4), gas charge, indoor fan, heat exchanger and filter.
1202	Preliminary fault to 1102
1204	Preliminary heat exchanger gas temperature sensor fault - check thermistors 10a and 10b
1205	Preliminary thermistor fault (TH5)
1211	Preliminary thermistor fault (TH2)
1214	Preliminary thermistor fault (THHS)
1216	Preliminary thermistor fault (TH7)
1217	Preliminary thermistor fault (TH8)
1219	Preliminary thermistor fault (TH9)
1221	Preliminary thermistor fault (TH6)
1243	Preliminary thermistor fault (TH10)
1301	Low pressure fault (63L operation) low pressure sensor sensing less than 1 bar immediately before starting
1302	High pressure fault - check pressure in system for more than 29 bar (R407c) 38 bar (R410A). Check high pressure sensor against gauge pressure
1368	Pressure sensor fault (PS1) at BC - compare pressure reading on SW1 on O/C
1370	Pressure sensor fault (PS3) at BC - compare pressure reading on SW1 on O/C
1402	Preliminary fault to 1302
1500	System overcharge. Abnormal low compressor superheat - discharge thermistor TH4
1501	High compressor shell temp - check for shortage of gas, insufficient indoor index running (comms room units)
1505	Suction pressure abnormal - generated by low pressure sensor detecting a vacuum - check for blockage, closed valve or sensor fault
2500	Detecting lack of water flow on a water circuit
2502	I/C has water level in drip tray, when the unit was running in cooling (temperature sensors - check for open or closed circuit and operation of pump)
2503	I/C has water level in drip tray, when the unit was running in cooling (float sensors - check for closed circuit on float switch and operation of pump)
2600	Water leak from humidifier
4100	Compressor over current protection on Mr Slim with M-net interface - check inverter or compressor
4101	Compressor over current protection on Mr Slim with M-net interface - check inverter or compressor

Error Code KNX	Error Description
4102	Open phase fault - check power supply and noise filter for loss of phase, check wiring and fuses
4103	Reverse phase fault - check phase rotation, loss of phase through the noise filter, fuse blown and high pressure switch open at power on
4106	Transmission power supply fault - check wiring, high current, incorrect voltage on transmission line and/or M-Net board
4108	Over current protection on DOL compressor - check power supply, contactor and compressor
4115	Power supply abnormal - check power, fuses, connections and PCB
4116	Fan motor abnormal - check fan motor and board (relates to indoor unit or Lossnay unit)
4124	Thermal switch (49C) open circuit on Mr Slim on M-Net - reset and check pressures and air flow
4210	Compressor over current problem - check inverter balance. Compressor and inverter
4220	Low inverter board BUS voltage. Less than 289 VdcDC is detected. - check mains supply
4225	Low DC voltage on Vdc on fan inverter - check CNVdc for 300Vdc on diode stack and check mains power supply to outdoor unit
4225	Low DC voltage on Vdc on fan inverter - check CNVdc for 300Vdc on diode stack and check mains power supply to outdoor unit
4230	High temperature on heat sink on inverter - check for blockages in air duct failure of INV fan or failure of thermistor
4235	Fan inverter heat sink overheat protection. Reduced airflow through heat sink. Fan motor problem. THHS thermistor problem
4240	Over current protection. If high current is detected for more than 10 minutes - check inverter balance. Reduced airflow through heat sink
4245	Over current protection. Possible ACCT current sensor fault. Should read 280 ohms between pins 1&2 and across pins 3&4
4250	Over current protection. Inverter IPM problem. Compressor lock - check inverter balance
4255	Inverter cooling fan problem - if high static fan is used then check that SW3-9 is on
4260	Preliminary inverter heat sink overheat protection. Reduced airflow through heat sink. Fan motor problem. THHS thermistor problem
5101	Thermistor fault at indoor/outdoor unit - check fault code address
5102	Thermistor fault at indoor/outdoor unit - check fault code address
5103	Thermistor fault at indoor/outdoor unit - check fault code address
5104	Thermistor fault at indoor/outdoor unit - check fault code address (indoor fault - check SW7-3 is off)
5105	TH5 open/short circuit - check if the TH is disconnected from the board
5106	TH6 open/short circuit - check if the TH is disconnected from the board
5107	TH7 open/short circuit - check if the TH is disconnected from the board
5108	TH8 open/short circuit - check if the TH is disconnected from the board
5109	TH9 open/short circuit - check if the TH is disconnected from the board
5110	TH10 open/short circuit - check if the TH is disconnected from the board
5111	BC box thermistor error - TH11 open/short circuit, disconnected from board/pipe
5112	BC box thermistor error - TH10 open/short circuit, disconnected from board/pipe

Error Code KNX	Error Description
5113	BC box thermistor error - TH open/short circuit, disconnected from board/pipe
5114	BC box thermistor error - TH open/short circuit, disconnected from board/pipe
5115	BC box thermistor error - TH15 open/short circuit, disconnected from board/pipe
5116	BC box thermistor error - TH16 open/short circuit, disconnected from board/pipe
5201	Pressure sensor fault outdoor unit/BC box - check fault code address/SW1 pressure sensor readings
5202	Pressure sensor fault (PS2) in the BC box
5203	Pressure sensor fault (PS3) in the BC box
5300	A-Control UH fault - see Mr Slim fault code list
5301	Current sensor fault, ACCT or DCCT - check inv. error details
5401	Temperature sensor fault - check CN30 for humidity sensor
5701	Loose float switch connector - check switch, check CN4F on indoor unit
6201	TB7 transmission line communication error - check for voltage abnormality/short
6202	Transmission processor hardware error - check for noise/short on M-Net cable
6600	Repeat address fault - two or more units are assigned the same address - correct the repeated address
6601	Polarity setting error - no voltage or short circuit on the m-net transmission line
6602	Hardware error of transmission processor. Noise interference. Polarity problem on TB7
6603	Bus circuit busy - check if indoor unit, Lossnay unit or anything else has been wired into TB7, instead of TB3
6607	Communication issue - no response back from unit whilst system is operational
6608	Communication error - loss of voltage or noise entering the transmission line
6700	K control communication error - R22 type unit connected onto M-Net circuit comms error
6701	K control communication error - R22 type unit connected onto M-Net circuit comms error
6702	K control duplicate address error - two or more R22 type units connected onto M-Net circuit with the same address
6750	K control communication error - R22 type unit connected onto M-Net circuit comms error
6751	R22 R/A thermistor fault (P1)
6752	R22 frost protection at I/C (P6)
6753	Comms fault between O/C and I/C
6754	R22 drain fault (P5)
6755	R22 drain fault (P5)
6756	R22 frost protection at I/C (P6)
6757	System error

Error Code KNX	Error Description
6758	Comms fault between I/C and O/C
6761	R22 R/A thermistor fault (P1)
6762	R22 TH2 fault check resistance (P2)
6763	R22 Comms fault between I/C and O/C
6764	R22 drain fault (P4)
6765	R22 drain fault (P5)
6766	R22 frost protection at I/C (P6)
6767	R22 comms fault between I/C and O/C
6771	K abnormality - high pressure abnormality or low pressure abnormality
6772	K abnormality - inner thermostat function, discharge temperature abnormality, shell thermostat function, over current protection
6773	K abnormality - radiator plate thermostat function
6774	K abnormality - outdoor thermistor abnormality
6775	K abnormality - pressure sensor abnormality, indoor/outdoor communication error
6776	K abnormality - over current shut-off
6777	K abnormality - system error
6778	K abnormality - normal
6779	K abnormality - refrigerant overcharge, abnormal voltage, abnormal CT sensor
6830	Comms fault between I/C and R/C check connections to MA R/C check for 12 Vdc check R/C not set sub controller
6831	MA R/C communication fault - check connections on TB15 or that the controller was removed while the I/C was powered
6832	MA controller comms fault - check cable length no bigger than 500m, check connection and type of cable used, check R/C not set sub on field settings
6833	MA controller comms fault - check cable length no bigger than 500m, check connection and type of cable used, check R/C not set sub on field settings
6834	MA controller comms fault - check cable length no bigger than 500m, check connection and type of cable used, check R/C not set sub on field settings
6840	A-Control E6/E8 fault - see Mr Slim fault code list
6841	A-Control E7/E9 fault - see Mr Slim fault code list
6844	A-Control EA fault - see Mr Slim fault code list
6845	A-Control Eb fault - see Mr Slim fault code list
6846	A-Control EC fault - see Mr Slim fault code list
7100	Over capacity - (R2 150% index exceeded) (Y 130% index exceeded)
7101	Capacity setting error - SW2 set wrong on indoors, SW5 on YHMA outdoor, (SW3-10 on older kit)
7102	Error in number of connected units - loss of M-Net voltage (short or break), no power to BC, wrong SW5 setting on box, wrong box type

Error Code KNX	Error Description
7105	Address setting error - OC or BC addressed wrong
7106	Attribute setting error - SW3-1 setting on a GUF
7107	Port setting error - check if too much capacity on a single port, wiring SW2 setting, wrong SW14 setting or wrong units on a box when using multiple boxes
7110	Check SW5-7 is correctly set
7111	Remote control sensor fault - SW1-1 on and no controllers fitted or faulty remote controller
7113	Function setting error - wrong SW5 setting or wrong resistors fitted on YHM-A
7117	Model setting error - SW5 set wrong or resistors in
7130	Incompatible equipment on M-Net - check split with MAC 399 wired onto the the TB5 line TB5 line, not the TB7