



TECNAIR LV

CLOSE CONTROL AIR CONDITIONING

CLOSE CONTROL AIR CONDITIONERS

GATEWAY SNMP PROTONODE RER

INSTALLATION, USE AND MAINTENANCE TECHNICAL MANUAL





SYMBOLS

**WARNING! DANGER!**

This symbol is used to indicate situations or operations that are potentially dangerous or that require the care of the operator.

**NOTE!**

This symbol is used to indicate useful suggestions to the operator.

**ELECTROCUTION HAZARD!**

This symbol is used to indicate situations or operations that potentially expose the operator the risk of electrocution.

REVISIONS LIST

| Revision | Date | Author | Chapters | Description |
|----------|---------|--------|----------|--|
| A | 01/2014 | AF | All | First version |
| B | 05/2015 | AF | All | SURVEY ^{EVO} microprocessor added |
| | | | | |
| | | | | |

INDICE

| | |
|---|-----------|
| IMPORTANT WARNING | 4 |
| WARRANTY | 5 |
| 1 INTRODUCTION | 6 |
| 2 SNMP PROTONODE RER GATEWAY | 7 |
| 2.1 TECHNICAL SPECIFICATIONS..... | 7 |
| 2.2 COMMUNICATION LEADS..... | 8 |
| 2.3 SERIAL COMMUNICATION PROTOCOL CHARACTERISTICS..... | 8 |
| 3 ELECTRICAL CONNECTIONS OF THE SNMP PROTONODE RER GATEWAY | 9 |
| 3.1 POWER SUPPLY OF THE SNMP PROTONODE RER GATEWAY..... | 9 |
| 3.2 MODBUS RTU RS485 SERIAL COMMUNICATION BOARD..... | 10 |
| 3.3 ETHERNET PORT CONNECTION..... | 10 |
| 4 CONFIGURATION OF THE SNMP PROTONODE RER GATEWAY VIA PC | 11 |
| 4.1 CONNECTION TO THE PC VIA THE ETHERNET PORT..... | 11 |
| 4.2 CONFIGURING THE SNMP PROTONODE RER GATEWAY..... | 12 |
| 5 OBJECT IDENTIFIER (OID) OF THE VARIABLES AND NOTIFICATIONS (TRAP) | 15 |
| 5.1 DEFINITION OF THE OBJECT IDENTIFIER (OID) OF THE VARIABLES..... | 15 |
| 5.2 ALARM NOTIFICATIONS (TRAP)..... | 15 |
| 6 CLOSE CONTROL SURVEY^{EVO} VARIABLES (SOFTWARE VERSIONE 2.0) | 16 |
| 7 CLOSE CONTROL SURVEY VARIABLES (SOFTWARE VERSIONE 1.3) | 25 |
| 8 SURGICAL ROOM SURVEY VARIABLES (SOFTWARE VERSIONE 1.1) | 29 |
| 9 TROUBLESHOOTING AND FAULTS ELIMINATION | 34 |
| 9.1 NO COMMUNICATION ON THE SERIAL BOARD AND RTU MODBUS..... | 34 |
| 9.2 NO CONNECTION ON THE MS/TP SNMP SERIAL PORT..... | 34 |
| 9.3 NO COMMUNICATION ON THE ETHERNET PORT..... | 34 |
| 10 NOTES | 35 |



IMPORTANT WARNING



TECNAIR LV develops its products on the basis of its ten year experience in the Close Control Air Conditioning sector, on the continuous investment in product technological innovation, on strict quality procedures and processes with functional tests on 100% of its production.

However, TECNAIR LV and its branches/affiliates do not guarantee that all aspects of the product, including software, correspond with the final application requirements, despite the product being manufactured in accordance with state-of-the-art techniques. The customer (designer or installer of the final equipment) assumes every responsibility and risk concerning product configuration in order to achieve the estimated results with regard to installation and/or specific final equipment.

In this case, prior to specific agreements, TECNAIR LV can intervene as consultant for the good outcome of the application/ final machine start-up, but in no case can be considered responsible for the good operation of the final system/equipment.

The TECNAIR LV units are an advanced product and their operation is detailed in the technical documentation provided with the product or it can be downloaded, even prior to purchasing, from our website www.tecnairlv.it. Every TECNAIR LV product, in relation to its advanced technological level, requires a qualification/configuration/programming/start-up phase for it to operate at its best, for the specific application. Lack in this study phase, as indicated in the manual, can cause malfunctioning in the final products of which TECNAIR LV cannot be considered responsible.

Only qualified personnel can install or carry out technical assistance interventions on the product. The final customer must only use the product as described in the documentation concerning the product itself.

Without this excluding the due compliance with the other warnings present in the manual, please note that it is, in any case, necessary for each TECNAIR LV Product:

- Stock and use the product in environments that respect temperature and humidity limits, which are specified in the manual.
- Do not install the device in particularly hot environments. Excessively high temperatures can reduce the duration of the electronic devices, damage them and deform or melt the plastic parts.
- Do not install the device in environments containing petroleum or oil vapour or any sort of aerosol, such as in kitchens (plastic parts could deteriorate) where there are flammable vapours such as petrol-based solvent.
- Do not install the device in environments containing corrosive gases, such as sulphuric gas (this could corrode the pipes and welded points). Do not use corrosive chemical products, aggressive detergents or solvents to clean the device.
- Do not install the device in environments containing equipment that generates electromagnetic waves (the system may be subject to malfunctions), or where the line voltage is subject to considerable fluctuation (such as factories, for example);
- Do not install the device in environments where the air has a high saline content, such as near sea-side cliffs.
- The appliance must not be installed on vehicles or boats.
- Do not drop, hit or shake the device, as the internal circuits and mechanisms may suffer irreparable damage.
- Do not use the product in different applications to those specified in the technical manual.

All the above recommendations are also valid for the microprocessor, the serial boards, the programming keys or, however, for any other accessory of TECNAIR LV products portfolio.

TECNAIR LV adopts a policy of continuous development, accordingly, the company reserves the right to make changes and improvements to any product described herein, without forewarning.

The technical data and dimensions are not binding.

The responsibility of TECNAIR LV in relation to its product is regulated by the TECNAIR LV general contract conditions and/or by the specific agreements with customers; in particular, as admitted by the applicable standard, in no case TECNAIR LV, its employees or its branches/affiliates will be responsible for any lost profits or sales, data and information loss, costs for substitute services or goods, damages to things or persons, activity interruptions or any direct, indirect, accidental, property, coverage, punitive, special or consequential damages in any way caused, whether contractual, extra contractual or due to negligence or other responsibility deriving from installation, use or impossibility to use the product, even if TECNAIR LV or its branches/affiliates have been warned on the possibility of damages.



WARRANTY



All TECNAIR LV products, or distinguished by the TECNAIR LV trademark, are subject to the following warranty conditions which are deemed to have been fully understood and accepted at the time of placing the order. TECNAIR LV undertakes during the period of warranty to repair or to replace with new at its own discretion, in the shortest time possible, any parts found to present recognised defects in materials, construction or workmanship that render them unfit for the intended use.

The warranty on the products sold by TECNAIR LV has a duration of TWENTY-FOUR MONTHS (2 years) from the date of shipping the material.

The following are excluded from the warranty:

- All parts typically subject to sliding or rolling friction (bearings, brushes, etc.);
- All parts typically subject to consumption (filters, humidifier cylinders, etc.);
- All parts typically subject to oxidation or corrosion if incorrectly used or maintained (headers, conductors and contacts in copper or metal alloys, internal or external parts of the unit, etc.);
- All parts not supplied by TECNAIR LV, even if integrating part of the system to which the product is enslaved.

Furthermore, TECNAIR LV reserves the right to cancel the warranty of sold products if:

- The labels or plates showing the Manufacturer mark and serial number have been deleted or removed;
- The product has been subjected to modifications or mechanical work not expressly authorised by TECNAIR LV;
- The product has been used not in conformity with the supplied instructions or for purposes different to those for which it was designed.
- The defect is the cause of negligence, inexperience, bad maintenance, carelessness and inability of the final User, damages caused by third party, accidental causes or of force majeure or, however, any other causes not attributable to manufacturing quality defects.

The above mentioned warranty conditions shall be valid provided that the Customer has fulfilled all of his contract obligations and in particular to those regarding the payment terms. The delayed or missed payment, even partial, for supply, suspends every warranty. The warranty does not give the Customer any right to suspend or delay payments that must, in any case, be granted as established at the time of placing the order and specified in our written order confirmation.

The warranty request must be made in writing detailing the found fault, the serial number or unit code where the fault has occurred and indicating the component that caused the fault, should this be easily identifiable. TECNAIR LV will not accept any warranty request made by telephone. For operational reasons, the warranty requests will only be accepted during office hours, from Monday to Friday. In the event a request is sent during a holiday, it will be considered received by TECNAIR LV during the first hour of the first successive working day to the sending of the same.

Faulty components are replaced ex works Uboldo. Transport costs are borne by the Customer, even in case of acknowledged warranty, unless otherwise specified by TECNAIR LV. The replacement costs of the defective components (labour costs, materials, refrigerant, etc.) are met by the Customer, even in case of recognised warranty, unless otherwise specified by TECNAIR LV.

TECNAIR LV does not have to pay compensation for direct or indirect damages of any nature and for any reason. Furthermore, TECNAIR LV does not answer for any delays in the supply of under warranty parts or execution of under warranty interventions.

The materials replaced under warranty remain the property of the Customer, who must dispose of it in accordance with the standard in force. Any disposal costs are met by the Customer. In the event return of the under warranty parts is requested, these must be returned within three (3) months from date of shipment of the substitute piece, under the care and at the expense of the Customer. On the contrary, all spare parts will be charged at the price on the list in force at time of their shipment.

Gateway SNMP ProtoNode RER

1 INTRODUCTION

The **ProtoNode** devices have been designed for all those who need to interface SURVEY microprocessors with a Modbus RS485 card with other protocols.

The ProtoNode devices are the best solution for flexibility and versatility, they support virtual node mode that allows you to connect multiple SURVEY controllers to a single ProtoNode, which will be seen as separate controllers.

The ProtoNode package includes all the hardware and software required to interface the actual product in the various networks with different protocols.

There are 2 types of ProtoNode devices:

- **PROTONODE BACNET/SNMP RER:** integrates two RS-485 ports and one Ethernet port.
- **PROTONODE LONWORKS LER:** includes one LONWORKS port, one RS-485 port and one Ethernet.



2 SNMP PROTONODE RER GATEWAY

The Simple Network Management Protocol (SNMP) is a network protocol which belongs to the suite of Internet protocols defined by IETF (Internet Engineering Task Force). The protocol operates at level 7 of the OSI model and allows for the configuration, management and monitoring of devices connected in a network (regardless whether internal commutation nodes such as network devices and user terminal nodes), with respect to all those aspects that require administrative action (Management).

SURVEY microprocessors can be fitted as part of a supervisory and/or remote assistance network that adopts the SNMP standard and connects the actual Modbus RS485 serial card to a SNMP ProtoNode RER gateway.

2.1 TECHNICAL SPECIFICATIONS

| SNMP ProtoNode RER Gateway | | | | |
|---|---|---|---|---|
| Electrical connections | 1 Connector with 6 poles for conductors of up to 1.5 mm ² (0.0028 in ²) | | | |
| | 1 Connector with 3 poles for conductors of up to 1.5 mm ² (0.0028 in ²) | | | |
| | 1 Ethernet Port-10/100 | | | |
| Certification | CE (EN55022, EN55024, EN60950), UL916, FCC Class A Part 15, DNP3 Conformance Tested, OPC Self-tested for Compliance, RoHS Compliant, CSA 205 Approved | | | |
| | BTL Marked | | | |
| Electrical power supply | 9 - 30 VDC or 12 - 24V AC | | | |
| Dimensions | 11.5 cm L x 8.2 cm W x 4.0 cm H (4.5 x 3.2 x 1.6 in.) | | | |
| Weight | 0.2 kg (0.4 lbs.) | | | |
| Operating temperature | -40°C to 75°C (-40°F to 167°F) | | | |
| Operating humidity | 5 - 90% RH (non-condensing) | | | |
| Electromagnetic compatibility | EN61000-4-2 ESD EN61000-4-3 EMC EN61000-4-4 EFT | | | |
|  |  |  |  |  |

2.1.1 BTL – SNMP TESTING LABORATORY

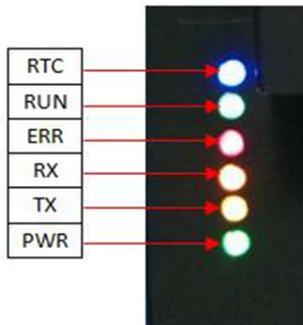
The BTL brand on the SNMP ProtoNode RER gateway indicates that the product has been tested and approved by an independent laboratory, surpassing all integration tests with SNMP networks.



Gateway SNMP ProtoNode RER

2.2 COMMUNICATION LEDS

The SNMP ProtoNode RER gateway has LEDs that allow its operational state to be verified. The meaning of the individual LEDs is explained in the table below:



| LED | FUNCTION |
|------------------|---|
| RTC – SPL | Not used |
| RUN | Flashing indicates correct operation |
| ERR | If ON, it indicates a problem |
| RX | Flashing indicates correct Modbus communication |
| TX | Flashing indicates correct Modbus communication |
| PWR | If ON, it indicates correct power supply |

2.3 SERIAL COMMUNICATION PROTOCOL CHARACTERISTICS

| MODBUS | |
|---------------------------|---|
| Protocol | Modbus Slave, RTU Mode |
| Communication Std. | RS485 Opto-isolated in terms of the network |
| Baud Rate | 19200 Baud (9600/19200) |
| Word Length | 8 |
| Parity | None |
| Stop Bits | 1 |

| SNMP | |
|---------------------------|---|
| Protocol | SNMP V1 |
| Communication Std. | RJ45 Ethernet |
| IP Address | 192.168.1.24 |
| Subnet Mask | 255.255.255.0 |
| Preset Gateway | 192.168.1.1 |
| Data type | INTEGER |
| | OCTET_STREAM |
| | TIMER_TICKS |
| | STRING |
| Command | SNMP Get Request |
| | SNMP GetNext Request / SNMP Walk |
| | SNMP Set Request |
| Trap | Sending Alarm trap to the specified address |

3 ELECTRICAL CONNECTIONS OF THE SNMP PROTONODE RER GATEWAY

AVVERTENZA!



E' comunque indispensabile fare sempre riferimento allo schema elettrico fornito a corredo dell'unita'.



All'interno dello schema elettrico sono suggeriti dei valori di dimensionamento per la linea elettrica e le relative protezioni.

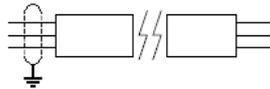
AVVERTENZA PER CAVI DI SEGNALE!



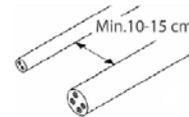
Evitare di creare giunzioni



Collegare un solo capo della schermatura a massa



Non posare con cavi di potenza

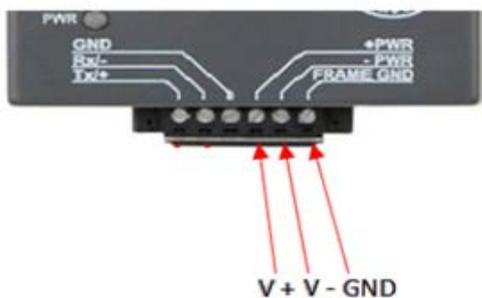


The following image shows the connection points of the SNMP ProtoNode RER gateway. The connections are the installer's responsibility who must comply with that in the following manual.



3.1 POWER SUPPLY OF THE SNMP PROTONODE RER GATEWAY

The table shows the meaning of the SNMP ProtoNode RER gateway pinout:



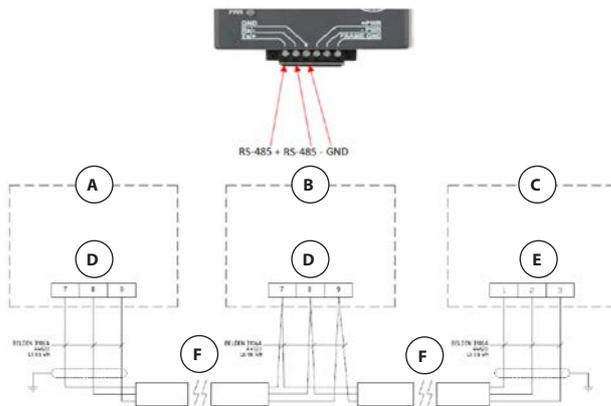
| PIN | FUNCTION |
|-----------|------------------------------|
| + PWR | + PWR 5V DC or 9 – 30V DC/AC |
| - PWR | - PWR 5V DC or 9 – 30V DC/AC |
| FRAME GND | Ground - Terra |

Electrical power supply

Gateway SNMP ProtoNode RER

3.2 MODBUS RTU RS485 SERIAL COMMUNICATION BOARD

To create a connection to the Modbus system, simply connect the units from the terminals on it (see wiring diagram for further information):



| PIN | FUNCTION |
|------|------------------|
| TX + | RS485 MODBUS + |
| RX - | RS485 MODBUS - |
| GND | RS485 MODBUS GND |

- A Unit 1
- B Unit 2
- C BMS / Supervision system/ Gateway
- D Modbus network output terminals
- E Modbus network input terminals
- F Modbus network connection cable

The type of cable to be used for the connection must have the following features:

| MAIN FEATURES OF SERIAL COMMUNICATION CABLE | | |
|---|--|--------------|
| Type | Data transmission cable for RS485, Modbus or CANbus interfaces | |
| Shielding | Tinned copper braid - Cover at least 65% | |
| Conductor section | 0.34 mm - AWG 22 | |
| Stranding | Twisted pairs | |
| Nominal loss (1 MHz) | dB/100m | 1.64 |
| Maximum DC resistance for conductor at 20°C | Ω/km | 49 |
| Insulation resistance at 20°C | MΩ*km | 5000 |
| Mutual capacitance c-c / c-s | nF/km | 40 - 70 |
| Inductance | mH/km | 0.7 |
| Impedance | Ohm | 120 +/- 0.12 |
| Maximum length | m | 100 |
| Example | | |

3.3 ETHERNET PORT CONNECTION

To set up the connection to the SNMP network simply connect the SNMP ProtoNode RER gateway via the RJ45 Ethernet port on the board, using a cable with the following characteristics:

| Type |
|--|
| Cross-over cable EIA/TIA-568A/B (10Base-T, 100Base-TX) |
| |



4 CONFIGURATION OF THE SNMP PROTONODE RER GATEWAY VIA PC

4.1 CONNECTION TO THE PC VIA THE ETHERNET PORT

The SNMP ProtoNode RER Gateway must be connected to a PC via the RJ4 ethernet port to be configured.

SNMP ProtoNode RER Gateway is configured with IP address 192.168.1.24 and Subnet Mask 255.255.255.0. If the PC should have different networks, proceed as follows:

- 1) Select:  **Start**

- 2) Select: **Control panel**

- 3) Select:  **Network and Internet Connections**

- 4) Select:  **Network and Sharing Centre**

- 5) Select:  **Local Area Connection (LAN)**

- 6) Select:  **Proprietà**

- 7) Select:  **Protocollo Internet versione 4 (TCP/IPv4)**

- 8) Select:  **Proprietà**

- 9) Configure: **Utilizza il seguente indirizzo IP:**
Indirizzo IP:
Subnet mask:
Gateway predefinito:

- 10) Select:  **OK**

Gateway SNMP ProtoNode RER

4.2 CONFIGURING THE SNMP PROTONODE RER GATEWAY

The SNMP ProtoNode RER Gateway is configured via the specifically developed web interface. Access the configuration page as follows:

- 7) Open the web browser (e.g. Internet Explorer).
- 8) Enter the IP address of the Gateway <http://192.168.1.24/>
- 9) The following page will appear on the page of the web browser:

FieldServer Technologies

Configuration Parameters

| Parameter Name | Parameter Description | Value |
|-----------------|---|--|
| network_nr | Set the network number of the Gateway. (1 - 65535) | 50 <input type="button" value="Submit"/> |
| mod_baud | Set the Modbus/RTU baudrate. (9600/19200) | 19200 <input type="button" value="Submit"/> |
| mod_databits | Set the Modbus/RTU data bits. (7 - 8) | 8 <input type="button" value="Submit"/> |
| mod_stopbits | Set the Modbus/RTU stop bits. (1 - 2) | 1 <input type="button" value="Submit"/> |
| mod_parity | Set the Modbus/RTU parity. (None/Odd/Even) | Even <input type="button" value="Submit"/> |
| bac_ip_port | Set the BACnet/IP port. Default is 47808. (1 - 65535) | 47808 <input type="button" value="Submit"/> |
| bac_baud | Set the BACnet/MSTP baudrate. (9600/19200/38400/57600) | 9600 <input type="button" value="Submit"/> |
| bac_databits | Set the BACnet/MSTP data bits. (7 - 9) | 8 <input type="button" value="Submit"/> |
| bac_stopbits | Set the BACnet/MSTP stop bits. (1 - 2) | 1 <input type="button" value="Submit"/> |
| bac_parity | Set the BACnet/MSTP parity. (None/Odd/Even) | None <input type="button" value="Submit"/> |
| trap_ip_address | Set IP address that receive trap messages (enter only IP address) | 192.168.1.11 <input type="button" value="Submit"/> |

Active profiles

| Nr | Node ID | Current profile | Parameters |
|------------------------------------|---------|-----------------|------------|
| <input type="button" value="Add"/> | | | |

HELP (?) System Restart Clear Profiles and Restart Diagnostics & Debugging

For the SNMP ProtoNode RER Gateway to run smoothly, at least one communication profile must be configured, i.e. at least 1 unit must be connected to it. The configuration page allows the following:

- 1) Configure the parameters of the Modbus network.
- 2) Configure the parameters of the SNMP network.
- 3) Configure the communication profiles of the connected units.
- 4) Force system restart.
- 5) Force system restart with deletion of the profiles.

4.2.1 CONFIGURATION OF PARAMETERS OF THE MODBUS NETWORK

Within the configuration page there are additional parameters whose configuration may be necessary to make the SNMP ProtoNode RER gateway compatible with the network to which it will be connected. The parameters are the following:

| PARAMETER | DESCRIPTION | MIN | MAX | DEFAULT |
|---------------------|---|---------------|-----|---------|
| mod_baud | Baud rate value of the SNMP MS/TP network | 9600/19200 | | 19200 |
| mod_databits | Data Bits value of the SNMP MS/TP network | 7 | 8 | 8 |
| mod_stopbits | Stop Bits value of the SNMP MS/TP network | 1 | 2 | 1 |
| mod_parity | Parity Heat of the SNMP MS/TP network | None/Odd/Even | | Even |

4.2.2 CONFIGURATION OF PARAMETERS OF THE SNMP NETWORK

Within the configuration page there are additional parameters whose configuration may be necessary to make the SNMP ProtoNode RER gateway compatible with the network to which it will be connected. The parameters are the following:

| PARAMETER | DESCRIPTION | MIN | MAX | DEFAULT |
|------------------------|---|------------------|-------|-------------|
| network_nr | Network number of ProtoNode RER gateway | 1 | 65535 | 50 |
| bac_ip_port | Not used in the SNMP configuration | 1 | 65535 | 47808 |
| bac_baud | Not used in the SNMP configuration | 9600/38400/76800 | | 9600 |
| bac_databits | Not used in the SNMP configuration | 7 | 8 | 8 |
| bac_stopbits | Not used in the SNMP configuration | 1 | 2 | 1 |
| bac_parity | Not used in the SNMP configuration | None/Odd/Even | | None |
| trap_ip_address | Alarm trap recipient IP address | - | | 192.168.1.1 |

4.2.3 CONFIGURATION OF THE COMMUNICATION PROFILE

The SNMP ProtoNode RER gateway allows the communication profiles to be configured according to the type of system and units connected to it.

Proceed as follows to implement the configuration:

- 1) Open the web browser (e.g. Internet Explorer) and enter the IP address of the Gateway <http://192.168.1.24/>
- 2) In the configuration page you will find the following section:

Active profiles

| Nr | Node ID | Current profile | Parameters |
|------------------------------------|---------|-----------------|------------|
| <input type="button" value="Add"/> | | | |

- 3) Select Add to add a configuration.
- 4) Enter the NODE ID Modbus RTU of the unit.
- 5) Select the communication profile. You can choose between the following types of communication profiles:
 - **SNMP_SurveyEvo**: SNMP Profile for Close Control Survey^{EVO} software version 2.0 unit
 - **SNMP_SurveyH**: SNMP Profile for Surgical Room Survey software version 1.1 unit
 - **SNMP_SurveyP**: SNMP Profile for Close Control Survey software version 1.3 unit
- 6) Enter the SNMP ID of the unit.
- 7) Repeat the operations according to the number of units connected to the SNMP ProtoNode RER gateway.
- 8) The SNMP ProtoNode RER gateway must be restarted for the settings to be implemented.

WARNING!

The SNMP ProtoNode RER gateway must be restarted for the settings to be implemented.

You can configure different profiles within the same SNMP ProtoNode RER.



Gateway SNMP ProtoNode RER

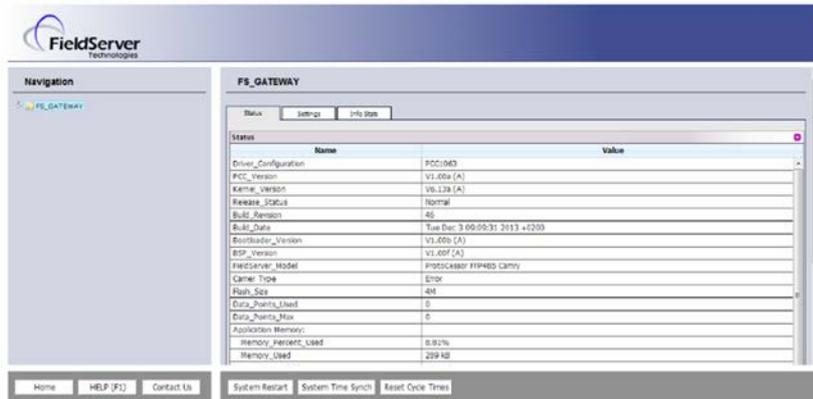
4.2.4 CHANGING THE IP ADDRESS OF THE SNMP PROTONODE RER GATEWAY

If the IP address of the SNMP ProtoNode RER gateway is not compatible with the LAN in which it must be connected, you can modify the default configuration settings as follows:

- 1) Open the web browser (e.g. Internet Explorer) and enter the IP address of the Gateway <http://192.168.1.24>. Nella pagina di configurazione premere il pulsante:

Diagnostics & Debugging

- 2) Press the following button on the configuration page
- 3) A new window will open:



- 4) Select the following folder from the navigation tree (Navigation):
- 5) Select the following sub-folder from the navigation tree (Navigation):
- 6) You can view the following configuration page:

Setup

Network Settings



- 7) Proceed with the configuration of the parameters that are to be modified..
- 8) At the end of the configuration, reset the system by pressing the following button:

System Restart

WARNING!

The SNMP ProtoNode RER gateway must be restarted for the settings to be implemented.



If the IP address of the SNMP ProtoNode RER gateway has been modified, the new IP address in the Web browser must be used to re-access the configuration



5 OBJECT IDENTIFIER (OID) OF THE VARIABLES AND NOTIFICATIONS (TRAP)

5.1 DEFINITION OF THE OBJECT IDENTIFIER (OID) OF THE VARIABLES

The variables are defined in the SNMP protocol by means of a unique Object Identifier (OID). The SNMP ProtoNode RER gateway identifies the variables as follows:

.1.3.6.1.4.1.6347.1.1.0.0

The Object Identifier (OID) consists of the following:

| .1.3.6.1.4.1.6347.1 | .1 | .0 | .0 |
|----------------------------|-----------------------|--------------------|----------------------|
| Part is common to all OID | Modbus ID of the unit | ID of the variable | This number is fixed |

5.2 ALARM NOTIFICATIONS (TRAP)

The notifications are asynchronous messages sent by the Agent to report events that have occurred in the managed system (e.g. alarms in case of faults). The SNMP notifications with no acknowledgement are generally called Traps.

SNMP ProtoNode RER gateway is configured to send Alarm traps to the IP address of the Receiver set within. The alarm Traps are sent as soon as an active alarm state is noted. The alarms are active when the value of the relative variables is 1.

Below is an example of Traps sent to the Receiver:

Source: 192.168.1.24 **Timestamp:** 1 minute 22 seconds **SNMP Version:** 1
Enterprise: .1.3.6.1.4.1.6347
Specific: 7
Generic: enterpriseSpecific
Variable Bindings:

Name: .1.3.6.1.4.1.6347.1.1.81.0.0
Value: [OctetString] Alarms1_1 STATUS: ALARM

Name: .1.3.6.1.4.1.6347.1.1.81.0
Value: [Integer] 1

Description:

Gateway SNMP ProtoNode RER

6 CLOSE CONTROL SURVEY^{EVO} VARIABLES (SOFTWARE VERSIONE 2.0)

| Name | Lenght | Description | Measure unit | Mode |
|------------------------------|--------|-----------------------------------|--------------|------|
| Digital input status | | | | |
| .1.3.6.1.4.1.6347.1.1.0.0 | 1 | Motorised Shutters Status | - | R |
| .1.3.6.1.4.1.6347.1.1.1.0 | 1 | Dirty Filter Alarm | | |
| .1.3.6.1.4.1.6347.1.1.2.0 | 1 | Remote OFF | | |
| .1.3.6.1.4.1.6347.1.1.3.0 | 1 | General Electric Coil Alarm | | |
| .1.3.6.1.4.1.6347.1.1.4.0 | 1 | Flooding / Condensate drain alarm | | |
| .1.3.6.1.4.1.6347.1.1.5.0 | 1 | Configurable input 1 | | |
| .1.3.6.1.4.1.6347.1.1.6.0 | 1 | Configurable input 2 | | |
| .1.3.6.1.4.1.6347.1.1.7.0 | 1 | Configurable input 3 | | |
| .1.3.6.1.4.1.6347.1.1.8.0 | 1 | Configurable input 4 | | |
| .1.3.6.1.4.1.6347.1.1.9.0 | 1 | Compressor 1 Thermal Alarm | | |
| .1.3.6.1.4.1.6347.1.1.10.0 | 1 | Compressor 1 high pressure alarm | | |
| .1.3.6.1.4.1.6347.1.1.11.0 | 1 | Compressor 1 low pressure alarm | | |
| .1.3.6.1.4.1.6347.1.1.12.0 | 1 | Compressor 2 Thermal Alarm | | |
| .1.3.6.1.4.1.6347.1.1.13.0 | 1 | Compressor 2 high pressure alarm | | |
| .1.3.6.1.4.1.6347.1.1.14.0 | 1 | Compressor 2 low pressure alarm | | |
| Digital output status | | | | |
| .1.3.6.1.4.1.6347.1.1.16.0 | 1 | Fans Control | - | R |
| .1.3.6.1.4.1.6347.1.1.17.0 | 1 | Shutters control | | |
| .1.3.6.1.4.1.6347.1.1.18.0 | 1 | Electrical Heating Coil 1 Status | | |
| .1.3.6.1.4.1.6347.1.1.19.0 | 1 | Electrical Heating Coil 2 Status | | |
| .1.3.6.1.4.1.6347.1.1.20.0 | 1 | Configurable digital output 1 | | |
| .1.3.6.1.4.1.6347.1.1.21.0 | 1 | Configurable digital output 2 | | |
| .1.3.6.1.4.1.6347.1.1.22.0 | 1 | Configurable digital output 3 | | |
| .1.3.6.1.4.1.6347.1.1.23.0 | 1 | Configurable digital output 4 | | |
| .1.3.6.1.4.1.6347.1.1.24.0 | 1 | Compressor 1 Control | | |
| .1.3.6.1.4.1.6347.1.1.25.0 | 1 | Compressor 2 Control | | |

| Name | Lenght | Description | Measure unit | Mode |
|---|--------|--|-------------------|------|
| Analog inputs | | | | |
| .1.3.6.1.4.1.6347.1.1.32.0 | 1 | Return humidity | %Rh | R |
| .1.3.6.1.4.1.6347.1.1.33.0 | 1 | Return temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.34.0 | 1 | Supply humidity | %Rh | |
| .1.3.6.1.4.1.6347.1.1.35.0 | 1 | Supply temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.36.0 | 1 | Air pressure | Pa | |
| .1.3.6.1.4.1.6347.1.1.37.0 | 1 | Water inlet temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.38.0 | 1 | Water outlet temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.39.0 | 1 | Compressor 1 condensation pressure | Barg | |
| .1.3.6.1.4.1.6347.1.1.40.0 | 1 | Compressor 2 condensation pressure | Barg | |
| .1.3.6.1.4.1.6347.1.1.41.0 | 1 | Compressor 1 condensation temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.42.0 | 1 | Compressor 2 condensation temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.43.0 | 1 | Compressor 1 drain temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.44.0 | 1 | Compressor 2 drain temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.45.0 | 1 | Compressor 1 suction temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.46.0 | 1 | Compressor 2 suction temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.47.0 | 1 | Compressor 1 evaporation pressure | Barg | |
| .1.3.6.1.4.1.6347.1.1.48.0 | 1 | Compressor 2 evaporation pressure | Barg | |
| .1.3.6.1.4.1.6347.1.1.49.0 | 1 | Compressor 1 evaporation temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.50.0 | 1 | Compressor 2 evaporation temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.51.0 | 1 | Compressor 1 liquid temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.52.0 | 1 | Compressor 2 liquid temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.53.0 | 1 | Water flow rate 1 | l/h | |
| .1.3.6.1.4.1.6347.1.1.54.0 | 1 | Water flow rate 2 | l/h | |
| .1.3.6.1.4.1.6347.1.1.55.0 | 1 | Total water flow rate | l/h | |
| .1.3.6.1.4.1.6347.1.1.56.0 | 1 | Return humidity (average local network) | %Rh | |
| .1.3.6.1.4.1.6347.1.1.57.0 | 1 | Return temperature (average local network) | °C | |
| .1.3.6.1.4.1.6347.1.1.58.0 | 1 | Supply humidity (average local network) | %Rh | |
| .1.3.6.1.4.1.6347.1.1.59.0 | 1 | Supply temperature (average local network) | °C | |
| .1.3.6.1.4.1.6347.1.1.60.0 | 1 | Air pressure (local network average) | °C | |
| Analog outputs | | | | |
| .1.3.6.1.4.1.6347.1.1.61.0 | 1 | Supply Fans Speed Control | % | R |
| .1.3.6.1.4.1.6347.1.1.62.0 | 1 | Cooling Valve / Free Cooling / External Inverter | % | |
| .1.3.6.1.4.1.6347.1.1.63.0 | 1 | Heating Valve / Modulating electrical coil | % | |
| .1.3.6.1.4.1.6347.1.1.64.0 | 1 | Two Sources Water Valve | % | |
| .1.3.6.1.4.1.6347.1.1.65.0 | 1 | Dry cooler / Condenser 1 | % | |
| .1.3.6.1.4.1.6347.1.1.66.0 | 1 | Humidifier / Condenser 2 | % | |
| Unit status | | | | |
| .1.3.6.1.4.1.6347.1.1.67.0 | 1 | Status of unit * | - | R |
| 0 = Unit OFF - 1 = OFF Remote - 2 = OFF from supervisor - 3 = Off from alarm - 4 = Stand-by - 5 = Unit ON | | | | |
| Supply air flow | | | | |
| .1.3.6.1.4.1.6347.1.1.68.0 | 1 | Air flow rate | m ³ /h | R |

Gateway SNMP ProtoNode RER

| Name | Lenght | Description | Measure unit | Mode |
|---|--------|-------------------------------------|--------------|------|
| Working hours | | | | |
| .1.3.6.1.4.1.6347.1.1.69.0 | 1 | Unit | h | R |
| .1.3.6.1.4.1.6347.1.1.70.0 | 1 | Compressor 1 | h | |
| .1.3.6.1.4.1.6347.1.1.71.0 | 1 | Compressor 2 | h | |
| .1.3.6.1.4.1.6347.1.1.72.0 | 1 | Electric heater | h | |
| .1.3.6.1.4.1.6347.1.1.73.0 | 1 | Dry cooler | h | |
| .1.3.6.1.4.1.6347.1.1.74.0 | 1 | Humidifier | h | |
| .1.3.6.1.4.1.6347.1.1.75.0 | 1 | Cooling valve | h | |
| .1.3.6.1.4.1.6347.1.1.76.0 | 1 | Condensator 1 | h | |
| .1.3.6.1.4.1.6347.1.1.77.0 | 1 | Condensator 2 | h | |
| .1.3.6.1.4.1.6347.1.1.78.0 | 1 | Free Cooling | h | |
| Electronic expansion valves state | | | | |
| .1.3.6.1.4.1.6347.1.1.79.0 | 1 | Current EEV1 superheating set-point | °C | R |
| .1.3.6.1.4.1.6347.1.1.80.0 | 1 | Current EEV2 superheating set-point | °C | |
| .1.3.6.1.4.1.6347.1.1.81.0 | 1 | Current EEV1 superheating | °C | |
| .1.3.6.1.4.1.6347.1.1.82.0 | 1 | Current EEV2 superheating | °C | |
| .1.3.6.1.4.1.6347.1.1.83.0 | 1 | Current EEV1 position | % | |
| .1.3.6.1.4.1.6347.1.1.84.0 | 1 | Current EEV2 position | % | |
| .1.3.6.1.4.1.6347.1.1.85.0 | 1 | Current EEV1 de-superheating | °C | |
| .1.3.6.1.4.1.6347.1.1.86.0 | 1 | Current EEV2 de-superheating | °C | |
| .1.3.6.1.4.1.6347.1.1.87.0 | 1 | Current EEV1 sub-cooling | °C | |
| .1.3.6.1.4.1.6347.1.1.88.0 | 1 | Current EEV2 sub-cooling | °C | |
| Internal humidifier status | | | | |
| .1.3.6.1.4.1.6347.1.1.89.0 | 1 | Current humidifier production | kg/h | R |
| .1.3.6.1.4.1.6347.1.1.90.0 | 1 | Supply water conductivity | µS/cm | |
| .1.3.6.1.4.1.6347.1.1.91.0 | 1 | Absorbed humidifier current | A | R |
| .1.3.6.1.4.1.6347.1.1.92.0 | 1 | Humidifier manner of operation | - | |
| 0 = Non active; 1 = Soft-start; 2 = Start full production after reduced production; 3 = Full production; 4 = Reduced production; 5, 6, 7 = Soft-start | | | | |
| .1.3.6.1.4.1.6347.1.1.93.0 | 1 | Humidifier status of operation | - | R |
| 0 = Non active (no request or locked or disabled); 1 = Start evaporation cycle; 2 = Water filing in progress; 3 = Evaporation in progress; 4 = AFS Drain; 5 = Water drain (for dilution or manual); 6 = End water drain; 7 = Complete drain for prolonged inactivity period; 8 = Complete drain from manual or network request; 9 = Water lack management; 10 = Pre-wash; 11 = Periodic drain | | | | |
| .1.3.6.1.4.1.6347.1.1.94.0 | 1 | Humidifier control | - | R |
| .1.3.6.1.4.1.6347.1.1.95.0 | 1 | Drain valve | - | |
| .1.3.6.1.4.1.6347.1.1.96.0 | 1 | Filling valve | - | |
| .1.3.6.1.4.1.6347.1.1.97.0 | 1 | High water level | - | |

| Name | Lenght | Description | Measure unit | Mode |
|--|--------|-------------------------------------|-------------------|------|
| Fans status | | | | |
| .1.3.6.1.4.1.6347.1.1.98.0 | 1 | Fan Speed 1 | RPM | R |
| .1.3.6.1.4.1.6347.1.1.99.0 | 1 | Fan Speed 2 | RPM | |
| .1.3.6.1.4.1.6347.1.1.100.0 | 1 | Fan Speed 3 | RPM | |
| .1.3.6.1.4.1.6347.1.1.101.0 | 1 | Fan Speed 4 | RPM | |
| .1.3.6.1.4.1.6347.1.1.102.0 | 1 | Fan Speed 5 | RPM | |
| .1.3.6.1.4.1.6347.1.1.103.0 | 1 | Fan Speed 1 | % | |
| .1.3.6.1.4.1.6347.1.1.104.0 | 1 | Fan Speed 2 | % | |
| .1.3.6.1.4.1.6347.1.1.105.0 | 1 | Fan Speed 3 | % | |
| .1.3.6.1.4.1.6347.1.1.106.0 | 1 | Fan Speed 4 | % | |
| .1.3.6.1.4.1.6347.1.1.107.0 | 1 | Fan Speed 5 | % | |
| .1.3.6.1.4.1.6347.1.1.108.0 | 1 | Fan 1 absorbed current | A | |
| .1.3.6.1.4.1.6347.1.1.109.0 | 1 | Fan 1 absorbed electrical power | W | |
| .1.3.6.1.4.1.6347.1.1.110.0 | 1 | Fan 2 absorbed current | A | |
| .1.3.6.1.4.1.6347.1.1.111.0 | 1 | Fan 2 absorbed electrical power | W | |
| .1.3.6.1.4.1.6347.1.1.112.0 | 1 | Fan 3 absorbed current | A | |
| .1.3.6.1.4.1.6347.1.1.113.0 | 1 | Fan 3 absorbed electrical power | W | |
| .1.3.6.1.4.1.6347.1.1.114.0 | 1 | Fan 4 absorbed current | A | |
| .1.3.6.1.4.1.6347.1.1.115.0 | 1 | Fan 4 absorbed electrical power | W | |
| .1.3.6.1.4.1.6347.1.1.116.0 | 1 | Fan 5 absorbed current | A | |
| .1.3.6.1.4.1.6347.1.1.117.0 | 1 | Fan 5 absorbed electrical power | W | |
| DC compressor inverter status | | | | |
| .1.3.6.1.4.1.6347.1.1.148.0 | 1 | Current compressor speed | Hz | R |
| .1.3.6.1.4.1.6347.1.1.149.0 | 1 | Current compressor electrical power | kW | |
| .1.3.6.1.4.1.6347.1.1.150.0 | 1 | Current compressor absorbed current | A | |
| Water cooling power | | | | |
| .1.3.6.1.4.1.6347.1.1.151.0 | 1 | Chilled water cooling capacity | kW | R |
| .1.3.6.1.4.1.6347.1.1.152.0 | 1 | EER | - | |
| Electric coil status | | | | |
| .1.3.6.1.4.1.6347.1.1.153.0 | 1 | Number of active stages | 0 | R |
| .1.3.6.1.4.1.6347.1.1.154.0 | 1 | Electrical power requirement | 0.0 | |
| Set-point | | | | |
| .1.3.6.1.4.1.6347.1.1.155.0 | 1 | Temperature set-point | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.156.0 | 1 | Humidity set-point | %Rh | |
| Set-point ventilazione | | | | |
| .1.3.6.1.4.1.6347.1.1.157.0 | 1 | Supply air flow rate set-point | m ³ /h | R/W |
| .1.3.6.1.4.1.6347.1.1.158.0 | 1 | Air pressure set-point | Pa | |
| Regolazione Temperatura | | | | |
| .1.3.6.1.4.1.6347.1.1.159.0 | 1 | Regulation sensor | - | R/W |
| 0 = Return; 1 = Supply | | | | |
| .1.3.6.1.4.1.6347.1.1.160.0 | 1 | Regulation type | - | R/W |
| 0 = Proportional (P); 1 = Proportional + Integral (PI); 2 = Proportional + Integral + Derivative (PID) | | | | |
| .1.3.6.1.4.1.6347.1.1.161.0 | 1 | Proportional Band | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.162.0 | 1 | Integration time | s | |
| .1.3.6.1.4.1.6347.1.1.163.0 | 1 | Derivation time | s | |
| .1.3.6.1.4.1.6347.1.1.164.0 | 1 | High temperature alarm offset | °C | |
| .1.3.6.1.4.1.6347.1.1.165.0 | 1 | Low temperature alarm offset | °C | |

Gateway SNMP ProtoNode RER

| Name | Lenght | Description | Measure unit | Mode |
|--|--------|------------------------------------|--------------|------|
| Limit temperature regulation | | | | |
| .1.3.6.1.4.1.6347.1.1.166.0 | 1 | Temperature upper limit | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.167.0 | 1 | High limit temperature management | - | R/W |
| 0 = Alarm only; 1 = Stop component; 2 = Reduction; 3 = Cold activation | | | | |
| .1.3.6.1.4.1.6347.1.1.168.0 | 1 | Temperature lower limit | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.169.0 | 1 | Low limit temperature management | - | R/W |
| 0 = Alarm only; 1 = Stop component; 2 = Reduction; 3 = Cold activation | | | | |
| Humidity regulation | | | | |
| .1.3.6.1.4.1.6347.1.1.170.0 | 1 | Dehumidification proportional band | %RH | R/W |
| .1.3.6.1.4.1.6347.1.1.171.0 | 1 | Humidification proportional band | %RH | |
| .1.3.6.1.4.1.6347.1.1.172.0 | 1 | High return humidity alarm offset | %RH | |
| .1.3.6.1.4.1.6347.1.1.173.0 | 1 | Low return humidity alarm offset | %RH | |
| .1.3.6.1.4.1.6347.1.1.174.0 | 1 | Higher supply humidity limit | %RH | |
| .1.3.6.1.4.1.6347.1.1.175.0 | 1 | Lower supply humidity limit | %RH | |
| Humidifier regulation | | | | |
| .1.3.6.1.4.1.6347.1.1.176.0 | 1 | Humidification enabling | - | R/W |
| .1.3.6.1.4.1.6347.1.1.177.0 | 1 | Manual discharge | - | |
| .1.3.6.1.4.1.6347.1.1.178.0 | 1 | Cylinder pre-wash | - | |
| Free cooling and two sources regulation | | | | |
| .1.3.6.1.4.1.6347.1.1.179.0 | 1 | Free cooling delta | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.180.0 | 1 | Two sources water set-point | °C | |
| .1.3.6.1.4.1.6347.1.1.181.0 | 1 | Two sources water band | °C | |
| .1.3.6.1.4.1.6347.1.1.182.0 | 1 | Two sources source exchange | - | |
| Condenser regulation | | | | |
| .1.3.6.1.4.1.6347.1.1.183.0 | 1 | Current condenser 1 set-point | °C | R |
| .1.3.6.1.4.1.6347.1.1.184.0 | 1 | Current condenser 2 set-point | °C | |
| .1.3.6.1.4.1.6347.1.1.185.0 | 1 | Condensation set-point | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.186.0 | 1 | Condensation proportional band | °C | |
| .1.3.6.1.4.1.6347.1.1.187.0 | 1 | Condensation set-point increase | °C | |
| .1.3.6.1.4.1.6347.1.1.188.0 | 1 | Maximum condensation set-point | °C | |
| Dry cooler regulation | | | | |
| .1.3.6.1.4.1.6347.1.1.189.0 | 1 | Current dry cooler set-point | °C | R |
| .1.3.6.1.4.1.6347.1.1.190.0 | 1 | Dry cooler set-point | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.191.0 | 1 | Dry cooler proportional band | °C | |
| .1.3.6.1.4.1.6347.1.1.192.0 | 1 | Dry Cooler set-point increase | °C | |
| .1.3.6.1.4.1.6347.1.1.193.0 | 1 | Maximum dry Cooler set-point | °C | |

| Name | Lenght | Description | Mode |
|-----------------------------|--------|--|------|
| Alarms | | | |
| .1.3.6.1.4.1.6347.1.1.194.0 | 1 | Broken return humidity probe alarm | R |
| .1.3.6.1.4.1.6347.1.1.195.0 | 1 | Broken return temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.196.0 | 1 | Broken differential air pressure sensor alarm | |
| .1.3.6.1.4.1.6347.1.1.197.0 | 1 | Broken supply temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.198.0 | 1 | Broken IN water temperature probe alarm Broken free cooling temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.199.0 | 1 | Broken OUT water temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.200.0 | 1 | Broken water flow rate sensor 1 alarm Broken liquid temperature probe 1 alarm | |
| .1.3.6.1.4.1.6347.1.1.201.0 | 1 | Broken supply humidity probe alarm | |
| .1.3.6.1.4.1.6347.1.1.202.0 | 1 | Broken water flow rate sensor 2 alarm Broken liquid temperature probe 2 alarm | |
| .1.3.6.1.4.1.6347.1.1.203.0 | 1 | Water presence sensor alarm Condensate drain pump alarm | |
| .1.3.6.1.4.1.6347.1.1.204.0 | 1 | Electric coil safety switch | |
| .1.3.6.1.4.1.6347.1.1.205.0 | 1 | Damper status alarm | |
| .1.3.6.1.4.1.6347.1.1.206.0 | 1 | Clogged air filter alarm | |
| .1.3.6.1.4.1.6347.1.1.207.0 | 1 | Compressor 1 magnetic thermal protection alarm | |
| .1.3.6.1.4.1.6347.1.1.208.0 | 1 | Compressor 2 magnetic thermal protection alarm | |
| .1.3.6.1.4.1.6347.1.1.209.0 | 1 | Compressor 1 high pressure alarm | |
| .1.3.6.1.4.1.6347.1.1.210.0 | 1 | Compressor 2 high pressure alarm | |
| .1.3.6.1.4.1.6347.1.1.211.0 | 1 | Compressor 1 low pressure alarm | |
| .1.3.6.1.4.1.6347.1.1.212.0 | 1 | Compressor 2 low pressure alarm | |
| .1.3.6.1.4.1.6347.1.1.213.0 | 1 | Compressor 1 high high drain temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.214.0 | 1 | Compressor 2 high high drain temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.215.0 | 1 | EEV 1 alarm | |
| .1.3.6.1.4.1.6347.1.1.216.0 | 1 | EEV 2 alarm | |
| .1.3.6.1.4.1.6347.1.1.217.0 | 1 | DC compressor inverter alarm | |
| .1.3.6.1.4.1.6347.1.1.218.0 | 1 | Fan 1 inverter alarm | |
| .1.3.6.1.4.1.6347.1.1.219.0 | 1 | Fan 2 inverter alarm | |
| .1.3.6.1.4.1.6347.1.1.220.0 | 1 | Fan 3 inverter alarm | |
| .1.3.6.1.4.1.6347.1.1.221.0 | 1 | Fan 4 inverter alarm | |
| .1.3.6.1.4.1.6347.1.1.222.0 | 1 | Fan 5 inverter alarm | |
| .1.3.6.1.4.1.6347.1.1.223.0 | 1 | Internal humidifier alarm | |
| .1.3.6.1.4.1.6347.1.1.224.0 | 1 | Local network communication alarm | |
| .1.3.6.1.4.1.6347.1.1.225.0 | 1 | High temperature regulation alarm | |
| .1.3.6.1.4.1.6347.1.1.226.0 | 1 | Low temperature regulation alarm | |
| .1.3.6.1.4.1.6347.1.1.227.0 | 1 | High return humidity alarm | |
| .1.3.6.1.4.1.6347.1.1.228.0 | 1 | Low return humidity alarm | |
| .1.3.6.1.4.1.6347.1.1.229.0 | 1 | High supply humidity alarm | |
| .1.3.6.1.4.1.6347.1.1.230.0 | 1 | Low supply humidity alarm | |
| .1.3.6.1.4.1.6347.1.1.231.0 | 1 | High limit temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.232.0 | 1 | Low limit temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.233.0 | 1 | Dry cooler general alarm | |
| .1.3.6.1.4.1.6347.1.1.234.0 | 1 | External humidifier general alarm | |
| .1.3.6.1.4.1.6347.1.1.235.0 | 1 | General water pump alarm | |
| .1.3.6.1.4.1.6347.1.1.236.0 | 1 | Condenser 1 general alarm | |
| .1.3.6.1.4.1.6347.1.1.237.0 | 1 | Condenser 2 general alarm | |
| .1.3.6.1.4.1.6347.1.1.238.0 | 1 | Refrigerant gas leak detector alarm | |
| .1.3.6.1.4.1.6347.1.1.239.0 | 1 | General supply fans alarm | |
| .1.3.6.1.4.1.6347.1.1.240.0 | 1 | Fire/Smoke presence alarm | |

Gateway SNMP ProtoNode RER

| Name | Lenght | Description | Mode |
|-----------------------------|--------|--|------|
| .1.3.6.1.4.1.6347.1.1.241.0 | 1 | Non-critical generic alarm | R |
| .1.3.6.1.4.1.6347.1.1.242.0 | 1 | Critical generic alarm | |
| .1.3.6.1.4.1.6347.1.1.243.0 | 1 | Condensing unit generic alarm | |
| .1.3.6.1.4.1.6347.1.1.244.0 | 1 | Power supply failure alarm | |
| .1.3.6.1.4.1.6347.1.1.245.0 | 1 | Compressor 1 low compression alarm | |
| .1.3.6.1.4.1.6347.1.1.246.0 | 1 | Compressor 2 low compression alarm | |
| .1.3.6.1.4.1.6347.1.1.247.0 | 1 | EEV1 communication down alarm | |
| .1.3.6.1.4.1.6347.1.1.248.0 | 1 | EEV1 Suction temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.249.0 | 1 | EEV1 Evaporation pressure probe alarm | |
| .1.3.6.1.4.1.6347.1.1.250.0 | 1 | EEV1 Condensation pressure probe alarm | |
| .1.3.6.1.4.1.6347.1.1.251.0 | 1 | EEV1 Discharge temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.252.0 | 1 | EEV2 communication down alarm | |
| .1.3.6.1.4.1.6347.1.1.253.0 | 1 | EEV2 Suction temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.254.0 | 1 | EEV2 Evaporation pressure probe alarm | |
| .1.3.6.1.4.1.6347.1.1.255.0 | 1 | EEV2 Condensation pressure probe alarm | |
| .1.3.6.1.4.1.6347.1.1.256.0 | 1 | EEV2 Discharge temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.257.0 | 1 | CPY communication down alarm | |
| .1.3.6.1.4.1.6347.1.1.258.0 | 1 | Internal memory error | |
| .1.3.6.1.4.1.6347.1.1.259.0 | 1 | Parameter error | |
| .1.3.6.1.4.1.6347.1.1.260.0 | 1 | Electrode high current | |
| .1.3.6.1.4.1.6347.1.1.261.0 | 1 | Low steam flow rate | |
| .1.3.6.1.4.1.6347.1.1.262.0 | 1 | No discharge | |
| .1.3.6.1.4.1.6347.1.1.263.0 | 1 | Maintenance time expired | |
| .1.3.6.1.4.1.6347.1.1.264.0 | 1 | No water | |
| .1.3.6.1.4.1.6347.1.1.265.0 | 1 | Cylinder maintenance | |
| .1.3.6.1.4.1.6347.1.1.266.0 | 1 | Cylinder burnt out | |
| .1.3.6.1.4.1.6347.1.1.267.0 | 1 | Foam presence | |
| .1.3.6.1.4.1.6347.1.1.268.0 | 1 | Life timer expired | |
| .1.3.6.1.4.1.6347.1.1.269.0 | 1 | High water level | |
| .1.3.6.1.4.1.6347.1.1.270.0 | 1 | High water conductivity | |
| .1.3.6.1.4.1.6347.1.1.271.0 | 1 | Connection error | |
| .1.3.6.1.4.1.6347.1.1.272.0 | 1 | Fan 1 phase/power supply down alarm | |
| .1.3.6.1.4.1.6347.1.1.273.0 | 1 | Fan 1 communication down | |
| .1.3.6.1.4.1.6347.1.1.274.0 | 1 | High vent. regulation module temperature 1 | |
| .1.3.6.1.4.1.6347.1.1.275.0 | 1 | Vent. master-slave communication failure 1 | |
| .1.3.6.1.4.1.6347.1.1.276.0 | 1 | Vent. regulation module malfunction 1 | |
| .1.3.6.1.4.1.6347.1.1.277.0 | 1 | High fan 1 motor temperature | |
| .1.3.6.1.4.1.6347.1.1.278.0 | 1 | Fan 1 Hall sensor error | |
| .1.3.6.1.4.1.6347.1.1.279.0 | 1 | Fan 1 overload motor | |
| .1.3.6.1.4.1.6347.1.1.280.0 | 1 | Fan 1 low DC power supply | |
| .1.3.6.1.4.1.6347.1.1.281.0 | 1 | Fan 2 phase/power supply down alarm | |
| .1.3.6.1.4.1.6347.1.1.282.0 | 1 | Fan 2 communication down | |
| .1.3.6.1.4.1.6347.1.1.283.0 | 1 | High vent. regulation module temperature 2 | |
| .1.3.6.1.4.1.6347.1.1.284.0 | 1 | Vent. master-slave communication failure 2 | |
| .1.3.6.1.4.1.6347.1.1.285.0 | 1 | Vent. regulation module malfunction 2 | |
| .1.3.6.1.4.1.6347.1.1.286.0 | 1 | High fan 2 motor temperature | |
| .1.3.6.1.4.1.6347.1.1.287.0 | 1 | Fan 2 Hall sensor error | |
| .1.3.6.1.4.1.6347.1.1.288.0 | 1 | Fan 2 overload motor | |
| .1.3.6.1.4.1.6347.1.1.289.0 | 1 | Fan 2 low DC power supply | |

| Name | Lenght | Description | Mode |
|-----------------------------|--------|--|------|
| .1.3.6.1.4.1.6347.1.1.290.0 | 1 | Fan 3 phase/power supply down alarm | R |
| .1.3.6.1.4.1.6347.1.1.291.0 | 1 | Fan 3 communication down | |
| .1.3.6.1.4.1.6347.1.1.292.0 | 1 | High vent. regulation module temperature 3 | |
| .1.3.6.1.4.1.6347.1.1.293.0 | 1 | Vent. master-slave communication failure 3 | |
| .1.3.6.1.4.1.6347.1.1.294.0 | 1 | Vent. regulation module malfunction 3 | |
| .1.3.6.1.4.1.6347.1.1.295.0 | 1 | High fan 3 motor temperature | |
| .1.3.6.1.4.1.6347.1.1.296.0 | 1 | Fan 3 Hall sensor error | |
| .1.3.6.1.4.1.6347.1.1.297.0 | 1 | Fan 3 overload motor | |
| .1.3.6.1.4.1.6347.1.1.298.0 | 1 | Fan 3 low DC power supply | |
| .1.3.6.1.4.1.6347.1.1.299.0 | 1 | Fan 4 phase/power supply down alarm | |
| .1.3.6.1.4.1.6347.1.1.300.0 | 1 | Fan 4 communication down | |
| .1.3.6.1.4.1.6347.1.1.301.0 | 1 | High vent. regulation module temperature 4 | |
| .1.3.6.1.4.1.6347.1.1.302.0 | 1 | Vent. master-slave communication failure 4 | |
| .1.3.6.1.4.1.6347.1.1.303.0 | 1 | Vent. regulation module malfunction 4 | |
| .1.3.6.1.4.1.6347.1.1.304.0 | 1 | High fan 4 motor temperature | |
| .1.3.6.1.4.1.6347.1.1.305.0 | 1 | Fan 4 Hall sensor error | |
| .1.3.6.1.4.1.6347.1.1.306.0 | 1 | Fan 4 overload motor | |
| .1.3.6.1.4.1.6347.1.1.307.0 | 1 | Fan 4 low DC power supply | |
| .1.3.6.1.4.1.6347.1.1.308.0 | 1 | Fan 5 phase/power supply down alarm | |
| .1.3.6.1.4.1.6347.1.1.309.0 | 1 | Fan 5 communication down | |
| .1.3.6.1.4.1.6347.1.1.310.0 | 1 | High vent. regulation module temperature 5 | |
| .1.3.6.1.4.1.6347.1.1.311.0 | 1 | Vent. master-slave communication failure 5 | |
| .1.3.6.1.4.1.6347.1.1.312.0 | 1 | Vent. regulation module malfunction 5 | |
| .1.3.6.1.4.1.6347.1.1.313.0 | 1 | High fan 5 motor temperature | |
| .1.3.6.1.4.1.6347.1.1.314.0 | 1 | Fan 5 Hall sensor error | |
| .1.3.6.1.4.1.6347.1.1.315.0 | 1 | Fan 5 overload motor | |
| .1.3.6.1.4.1.6347.1.1.316.0 | 1 | Fan 5 low DC power supply | |
| .1.3.6.1.4.1.6347.1.1.317.0 | 1 | DC compressor inverter communication alarm | |
| .1.3.6.1.4.1.6347.1.1.318.0 | 1 | DC compressor inverter alarm code [0] | |
| .1.3.6.1.4.1.6347.1.1.319.0 | 1 | DC compressor inverter alarm code [1] | |
| .1.3.6.1.4.1.6347.1.1.320.0 | 1 | DC compressor inverter alarm code [2] | |
| .1.3.6.1.4.1.6347.1.1.321.0 | 1 | DC compressor inverter alarm code [3] | |
| .1.3.6.1.4.1.6347.1.1.322.0 | 1 | DC compressor inverter alarm code [4] | |

48 = 0; 49 = 1; 50 = 2; 51 = 3; 52 = 4; 53 = 5; 54 = 6; 55 = 7; 56 = 8; 57 = 9; 70 = F

Gateway SNMP ProtoNode RER

| Name | Lenght | Description | Mode |
|-----------------------------|--------|---|------|
| Alarms reset | | | |
| .1.3.6.1.4.1.6347.1.1.323.0 | 1 | Water presence sensor alarm reset | R/W |
| .1.3.6.1.4.1.6347.1.1.324.0 | 1 | Condensate drain pump alarm reset | |
| .1.3.6.1.4.1.6347.1.1.325.0 | 1 | Electr. coil safety thermostat alarm reset | |
| .1.3.6.1.4.1.6347.1.1.326.0 | 1 | Damper status alarm reset | |
| .1.3.6.1.4.1.6347.1.1.327.0 | 1 | Clogged air filter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.328.0 | 1 | Comp. magnetic thermal protection alarm reset 1 | |
| .1.3.6.1.4.1.6347.1.1.329.0 | 1 | Comp. magnetic thermal protection alarm reset 2 | |
| .1.3.6.1.4.1.6347.1.1.330.0 | 1 | Compressor 1 high pressure alarm reset | |
| .1.3.6.1.4.1.6347.1.1.331.0 | 1 | Compressor 2 high pressure alarm reset | |
| .1.3.6.1.4.1.6347.1.1.332.0 | 1 | Compressor 1 low pressure alarm reset | |
| .1.3.6.1.4.1.6347.1.1.333.0 | 1 | Compressor 2 low pressure alarm reset | |
| .1.3.6.1.4.1.6347.1.1.334.0 | 1 | Comp. high drain temperature alarm reset 1 | |
| .1.3.6.1.4.1.6347.1.1.335.0 | 1 | Comp. high drain temperature alarm reset 2 | |
| .1.3.6.1.4.1.6347.1.1.336.0 | 1 | Compressor 1 EEV alarm reset | |
| .1.3.6.1.4.1.6347.1.1.337.0 | 1 | Compressor 2 EEV alarm reset | |
| .1.3.6.1.4.1.6347.1.1.338.0 | 1 | Compressor 1 inverter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.339.0 | 1 | Fan 1 inverter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.340.0 | 1 | Fan 2 inverter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.341.0 | 1 | Fan 3 inverter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.342.0 | 1 | Fan 4 inverter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.343.0 | 1 | Fan 5 inverter alarm reset | |
| .1.3.6.1.4.1.6347.1.1.344.0 | 1 | Internal humidifier alarm reset | |
| .1.3.6.1.4.1.6347.1.1.345.0 | 1 | Dry cooler general alarm reset | |
| .1.3.6.1.4.1.6347.1.1.346.0 | 1 | External humidifier general alarm reset | |
| .1.3.6.1.4.1.6347.1.1.347.0 | 1 | General water pump alarm reset | |
| .1.3.6.1.4.1.6347.1.1.348.0 | 1 | Condenser 1 general alarm reset | |
| .1.3.6.1.4.1.6347.1.1.349.0 | 1 | Condenser 2 general alarm reset | |
| .1.3.6.1.4.1.6347.1.1.350.0 | 1 | Refrigerant gas leak detector alarm reset | |
| .1.3.6.1.4.1.6347.1.1.351.0 | 1 | General supply fans alarm reset | |
| .1.3.6.1.4.1.6347.1.1.352.0 | 1 | Fire/Smoke presence alarm reset | |
| .1.3.6.1.4.1.6347.1.1.353.0 | 1 | Non-critical generic alarm reset | |
| .1.3.6.1.4.1.6347.1.1.354.0 | 1 | Critical generic alarm reset | |
| .1.3.6.1.4.1.6347.1.1.355.0 | 1 | Condensing unit generic alarm reset | |
| .1.3.6.1.4.1.6347.1.1.356.0 | 1 | Power supply failure alarm reset | |
| .1.3.6.1.4.1.6347.1.1.357.0 | 1 | Comp. low compression alarm reset 1 | |
| .1.3.6.1.4.1.6347.1.1.357.0 | 1 | Comp. low compression alarm reset 2 | |

7 CLOSE CONTROL SURVEY VARIABLES (SOFTWARE VERSIONE 1.3)

| Name | Description | Measure unit | Mode |
|------------------------------------|---|-------------------|------|
| Analog inputs | | | |
| .1.3.6.1.4.1.6347.1.1.0.0 | Ambient humidity | %Ur | R |
| .1.3.6.1.4.1.6347.1.1.1.0 | Ambient temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.2.0 | Supply air temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.3.0 | FC/TS Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.4.0 | Supply pressure | Pa | |
| Analog outputs | | | |
| .1.3.6.1.4.1.6347.1.1.5.0 | Supply fan speed | % | R |
| .1.3.6.1.4.1.6347.1.1.6.0 | Modulating heating valve opening | % | |
| .1.3.6.1.4.1.6347.1.1.7.0 | Hot gas bypass/Modulating cooling valve | % | |
| .1.3.6.1.4.1.6347.1.1.8.0 | External humidifier request | % | |
| .1.3.6.1.4.1.6347.1.1.9.0 | FC-TS Valve Opening | % | |
| .1.3.6.1.4.1.6347.1.1.10.0 | Dry Cooler fan speed | % | |
| Working hours | | | |
| .1.3.6.1.4.1.6347.1.1.11.0 | Unit hours of operation | h | R |
| .1.3.6.1.4.1.6347.1.1.12.0 | Compressor 1 hours of operation | h | |
| .1.3.6.1.4.1.6347.1.1.13.0 | Compressor 2 hours of operation | h | |
| .1.3.6.1.4.1.6347.1.1.14.0 | Humidifier hours of operation | h | |
| .1.3.6.1.4.1.6347.1.1.15.0 | Electric coil working hours | h | |
| .1.3.6.1.4.1.6347.1.1.16.0 | Free Cooling hours of operation | h | |
| Electronic expansion valves | | | |
| .1.3.6.1.4.1.6347.1.1.17.0 | EXD 1 – Valve Opening | % | R |
| .1.3.6.1.4.1.6347.1.1.18.0 | EXD 1 – Suction Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.19.0 | EXD 1 – Overheating | * | |
| .1.3.6.1.4.1.6347.1.1.20.0 | EXD 1 – Evaporation Pressure | bar | |
| .1.3.6.1.4.1.6347.1.1.21.0 | EXD 1 – Evaporation Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.22.0 | EXD 1 – Discharge Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.23.0 | EXD 2 – Valve Opening | % | |
| .1.3.6.1.4.1.6347.1.1.24.0 | EXD 2 – Suction Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.25.0 | EXD 2 – Overheating | * | |
| .1.3.6.1.4.1.6347.1.1.26.0 | EXD 2 – Evaporation Pressure | bar | |
| .1.3.6.1.4.1.6347.1.1.27.0 | EXD 2 – Evaporation Temperature | °C | |
| Regulation | | | |
| .1.3.6.1.4.1.6347.1.1.28.0 | Current air flow rate | m ³ /h | R |

Gateway SNMP ProtoNode RER

| Name | Description | Measure unit | Mode |
|---|---------------------------------------|-------------------|------|
| Local network | | | |
| .1.3.6.1.4.1.6347.1.1.29.0 | Unit 1 Status | * | R |
| .1.3.6.1.4.1.6347.1.1.30.0 | Unit 2 Status | | |
| .1.3.6.1.4.1.6347.1.1.31.0 | Unit 3 Status | | |
| .1.3.6.1.4.1.6347.1.1.32.0 | Unit 4 Status | | |
| .1.3.6.1.4.1.6347.1.1.33.0 | Unit 5 Status | | |
| .1.3.6.1.4.1.6347.1.1.34.0 | Unit 6 Status | | |
| .1.3.6.1.4.1.6347.1.1.35.0 | Unit 7 Status | | |
| .1.3.6.1.4.1.6347.1.1.36.0 | Unit 8 Status | | |
| .1.3.6.1.4.1.6347.1.1.37.0 | Unit 9 Status | | |
| .1.3.6.1.4.1.6347.1.1.38.0 | Unit 10 Status | | |
| .1.3.6.1.4.1.6347.1.1.39.0 | Unit 11 Status | | |
| .1.3.6.1.4.1.6347.1.1.40.0 | Unit 12 Status | | |
| * Unit status descriptions | | | |
| 1 = Unit ON - 2 = Unit OFF - 3 = OFF due to serious alarm - 4 = OFF via supervisor - 5 = Remote OFF - 6 = Standby - 7 = In support - 8 = Support request - 9 = In replacement | | | |
| Parameters | | | |
| .1.3.6.1.4.1.6347.1.1.41.0 | Temperature set-point | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.42.0 | Temperature Proportional Band | °C | |
| .1.3.6.1.4.1.6347.1.1.43.0 | Humidity Set-point | %Rh | |
| .1.3.6.1.4.1.6347.1.1.44.0 | Humidification Proportional Band | %Rh | |
| .1.3.6.1.4.1.6347.1.1.45.0 | Dehumidification Proportional Band | %Rh | |
| .1.3.6.1.4.1.6347.1.1.46.0 | Maximum humidifier production | %Rh | |
| .1.3.6.1.4.1.6347.1.1.47.0 | Air flow rate set-point | m ³ /h | |
| .1.3.6.1.4.1.6347.1.1.48.0 | Air Pressure Set-point | Pa | |
| Alarm thresholds | | | |
| .1.3.6.1.4.1.6347.1.1.49.0 | High Ambient Temperature Threshold | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.50.0 | Low Ambient Temperature Threshold | °C | |
| .1.3.6.1.4.1.6347.1.1.51.0 | High Ambient Humidity Threshold | °C | |
| .1.3.6.1.4.1.6347.1.1.52.0 | Low Ambient Humidity Threshold | °C | |
| .1.3.6.1.4.1.6347.1.1.53.0 | Supply High Temperature Set-point | °C | |
| .1.3.6.1.4.1.6347.1.1.54.0 | Supply Low Temperature Set-point | °C | |
| Free Cooling & Two Sources regulation | | | |
| .1.3.6.1.4.1.6347.1.1.55.0 | Free Cooling Delta | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.56.0 | Two Sources water set-point | °C | |
| Dry Cooler regulation | | | |
| .1.3.6.1.4.1.6347.1.1.57.0 | Dry Cooler proportional band | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.58.0 | Dry Cooler Setpoint | °C | |
| .1.3.6.1.4.1.6347.1.1.59.0 | Dry Cooler Delta increase | °C | |
| .1.3.6.1.4.1.6347.1.1.60.0 | Maximum Dry Cooler set-point increase | °C | |

| Name | Description | Mode |
|----------------------------|--|------|
| Digital outputs | | |
| .1.3.6.1.4.1.6347.1.1.64.0 | Supply fans control (DO1) | R |
| .1.3.6.1.4.1.6347.1.1.65.0 | Motorised dampers control (DO2) | |
| .1.3.6.1.4.1.6347.1.1.66.0 | Compressor 1 control/Open 3P cooling valve (DO3) | |
| .1.3.6.1.4.1.6347.1.1.67.0 | Compressor 2 control/Close 3P cooling valve (DO4) | |
| .1.3.6.1.4.1.6347.1.1.68.0 | Electric Heater 1st stage/Open 3P heating valve (DO5) | |
| .1.3.6.1.4.1.6347.1.1.69.0 | Electric Heater 2nd stage/Close 3P heating valve (DO6) | |
| .1.3.6.1.4.1.6347.1.1.70.0 | General non-critical alarm (DO7) | |
| .1.3.6.1.4.1.6347.1.1.71.0 | General serious alarm (DO8) | |
| .1.3.6.1.4.1.6347.1.1.72.0 | FC – TS Valve Control (DO9) | |
| .1.3.6.1.4.1.6347.1.1.73.0 | Dry Cooler Control (DO10) | |
| .1.3.6.1.4.1.6347.1.1.74.0 | Unit ON | |
| .1.3.6.1.4.1.6347.1.1.75.0 | Active Free Cooling | |
| .1.3.6.1.4.1.6347.1.1.76.0 | Two Sources Active | |
| Controls | | |
| .1.3.6.1.4.1.6347.1.1.77.0 | Unit OFF: The unit is switched off from the supervisor | R/W |
| .1.3.6.1.4.1.6347.1.1.78.0 | Reset unit alarms | R/W |
| .1.3.6.1.4.1.6347.1.1.79.0 | Humidification Enabling | R/W |

Gateway SNMP ProtoNode RER

| Name | Description | Mode |
|-----------------------------|--|------|
| Alarms | | |
| .1.3.6.1.4.1.6347.1.1.80.0 | Broken or disconnected humidity probe alarm | R |
| .1.3.6.1.4.1.6347.1.1.81.0 | Broken or disconnected ambient temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.82.0 | Broken or disconnected supply pressure switch alarm | |
| .1.3.6.1.4.1.6347.1.1.83.0 | Broken or disconnected supply temperature probe alarm | |
| .1.3.6.1.4.1.6347.1.1.84.0 | FC-TS temperature probe error or disconnection alarm | |
| .1.3.6.1.4.1.6347.1.1.85.0 | Compressor 1 General Alarm | |
| .1.3.6.1.4.1.6347.1.1.86.0 | Compressor 2 General Alarm | |
| .1.3.6.1.4.1.6347.1.1.87.0 | Electric coil safety thermostat alarm | |
| .1.3.6.1.4.1.6347.1.1.88.0 | General supply fans alarm (Unit OFF) | |
| .1.3.6.1.4.1.6347.1.1.89.0 | Clogged air filter alarm | |
| .1.3.6.1.4.1.6347.1.1.90.0 | Fire/Smoke Alarm (Unit OFF) | |
| .1.3.6.1.4.1.6347.1.1.91.0 | Compressor 1 low pressure alarm | |
| .1.3.6.1.4.1.6347.1.1.92.0 | Compressor 2 low pressure alarm | |
| .1.3.6.1.4.1.6347.1.1.93.0 | General external humidifier alarm | |
| .1.3.6.1.4.1.6347.1.1.94.0 | High ambient temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.95.0 | Low ambient temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.96.0 | High ambient humidity alarm | |
| .1.3.6.1.4.1.6347.1.1.97.0 | Low ambient humidity alarm | |
| .1.3.6.1.4.1.6347.1.1.98.0 | No master alarm | |
| .1.3.6.1.4.1.6347.1.1.99.0 | Motorised dampers alarm (Unit OFF) | |
| .1.3.6.1.4.1.6347.1.1.100.0 | Flooding alarm | |
| .1.3.6.1.4.1.6347.1.1.101.0 | High supply temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.102.0 | Low supply temperature alarm | |
| .1.3.6.1.4.1.6347.1.1.103.0 | Expansion Communication Alarm | |
| .1.3.6.1.4.1.6347.1.1.104.0 | Serious Compressor Alarm | |
| .1.3.6.1.4.1.6347.1.1.105.0 | Dry cooler general alarm | |
| .1.3.6.1.4.1.6347.1.1.106.0 | EXD 1 - Communication Error | |
| .1.3.6.1.4.1.6347.1.1.107.0 | EXD 1 - Temperature Probe Error | |
| .1.3.6.1.4.1.6347.1.1.108.0 | EXD 1 - Pressure Probe Error | |
| .1.3.6.1.4.1.6347.1.1.109.0 | EXD 1 - No Refrigerant Selected | |
| .1.3.6.1.4.1.6347.1.1.110.0 | EXD 1 - Drain temperature sensor error | |
| .1.3.6.1.4.1.6347.1.1.111.0 | EXD 2 - Communication Error | |
| .1.3.6.1.4.1.6347.1.1.112.0 | EXD 2 - Temperature Probe Error | |
| .1.3.6.1.4.1.6347.1.1.113.0 | EXD 2 - Pressure Probe Error | |
| .1.3.6.1.4.1.6347.1.1.114.0 | EXD 2 - No Refrigerant Selected | |
| .1.3.6.1.4.1.6347.1.1.115.0 | DC compressor high discharge temperature alarm | |

8 SURGICAL ROOM SURVEY VARIABLES (SOFTWARE VERSIONE 1.1)

| Name | Description | Measure unit | Mode |
|--|-----------------------------|-------------------|------|
| Probes | | | |
| .1.3.6.1.4.1.6347.1.1.0.0 | Ambient humidity | %Ur | R |
| .1.3.6.1.4.1.6347.1.1.1.0 | Ambient temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.2.0 | Supply air temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.3.0 | Outside air temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.4.0 | Antifreeze air temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.5.0 | Supply duct pressure | Pa | |
| .1.3.6.1.4.1.6347.1.1.6.0 | Room / return duct pressure | Pa | |
| Supply air flow | | | |
| .1.3.6.1.4.1.6347.1.1.7.0 | Supply air flow rate | m ³ /h | R |
| Unit status | | | |
| .1.3.6.1.4.1.6347.1.1.8.0 | Unit Status | * | R |
| * Unit status descriptions | | | |
| 1 = Unit ON - 2 = Unit OFF - 3 = Remote OFF - 4 = Supervisor OFF - 5 = Fans emergency function - 6 = Alarm OFF - 7 = UPS active - 8 = Emergency depression - 9 = Night Stand-by | | | |
| Component status | | | |
| .1.3.6.1.4.1.6347.1.1.9.0 | Supply fan | % | R |
| .1.3.6.1.4.1.6347.1.1.10.0 | Return fan | % | |
| .1.3.6.1.4.1.6347.1.1.11.0 | Recirculation damper | % | |
| .1.3.6.1.4.1.6347.1.1.12.0 | Cooling | % | |
| .1.3.6.1.4.1.6347.1.1.13.0 | Heating | % | |
| .1.3.6.1.4.1.6347.1.1.14.0 | Post-Heating | % | |
| .1.3.6.1.4.1.6347.1.1.15.0 | Humidification | % | |
| Internal humidifier status | | | |
| .1.3.6.1.4.1.6347.1.1.16.0 | Steam Production | Kg/h | R |
| .1.3.6.1.4.1.6347.1.1.17.0 | Current Absorbed | A | |
| .1.3.6.1.4.1.6347.1.1.18.0 | Water Conductivity | µS/cm | |
| .1.3.6.1.4.1.6347.1.1.19.0 | Humidifier Status | ** | |
| .1.3.6.1.4.1.6347.1.1.20.0 | Humidifier Work Mode | *** | |
| ** Humidifier status descriptions | | | |
| 0= OFF - 1 = Start Cycle - 2 = Load - 3 = Evaporation - 4 = Drain - 5 = Drain - 6 = Drain End - 7 = Drain due to Inactivity - 8 = Discharge Complete - 9 = No Water - 10 = Washing - 11 = Periodical Discharge | | | |
| *** Humidifier working mode description | | | |
| 0= OFF - 1 = Soft Start - 2 = Production Start - 3 = Steady state - 4 = Low Production - 5, 6, 7 = Soft Start | | | |

Gateway SNMP ProtoNode RER

| Name | Description | Measure unit | Mode |
|---|------------------------------------|-------------------|------|
| Working hours | | | |
| .1.3.6.1.4.1.6347.1.1.21.0 | Unit (Fans) | h | R |
| .1.3.6.1.4.1.6347.1.1.22.0 | Compressor 1 | h | |
| .1.3.6.1.4.1.6347.1.1.23.0 | Compressor 2 | h | |
| .1.3.6.1.4.1.6347.1.1.24.0 | Humidifier | h | |
| .1.3.6.1.4.1.6347.1.1.25.0 | Electric heating coil | h | |
| .1.3.6.1.4.1.6347.1.1.26.0 | Electric post-heating coil | h | |
| Temperature regulation | | | |
| .1.3.6.1.4.1.6347.1.1.27.0 | Temperature set-point | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.28.0 | Temperature proportional band | °C | |
| Humidity regulation | | | |
| .1.3.6.1.4.1.6347.1.1.29.0 | Humidity set-point | %Rh | R/W |
| .1.3.6.1.4.1.6347.1.1.30.0 | Humidification proportional band | %Rh | |
| .1.3.6.1.4.1.6347.1.1.31.0 | Dehumidification proportional band | %Rh | |
| .1.3.6.1.4.1.6347.1.1.32.0 | Maximum humidifier production | % | |
| Fans regulation | | | |
| .1.3.6.1.4.1.6347.1.1.33.0 | Supply air flow rate set-point | m ³ /h | R/W |
| .1.3.6.1.4.1.6347.1.1.34.0 | Supply duct pressure set-point | Pa | |
| .1.3.6.1.4.1.6347.1.1.35.0 | Room pressure setpoint | Pa | |
| .1.3.6.1.4.1.6347.1.1.36.0 | Return duct pressure setpoint | Pa | |
| .1.3.6.1.4.1.6347.1.1.37.0 | Recirculation percentage | % | |
| Alarm thresholds | | | |
| .1.3.6.1.4.1.6347.1.1.38.0 | High Ambient Temperature Threshold | °C | R/W |
| .1.3.6.1.4.1.6347.1.1.39.0 | Low Ambient Temperature Threshold | °C | |
| .1.3.6.1.4.1.6347.1.1.40.0 | High Ambient Humidity Threshold | °C | |
| .1.3.6.1.4.1.6347.1.1.41.0 | Low Ambient Humidity Threshold | °C | |
| .1.3.6.1.4.1.6347.1.1.42.0 | Supply High Temperature Set-point | °C | |
| .1.3.6.1.4.1.6347.1.1.43.0 | Supply Low Temperature Set-point | °C | |
| Electronic expansion valves status | | | |
| .1.3.6.1.4.1.6347.1.1.44.0 | EXD 1 – Valve Opening | % | R |
| .1.3.6.1.4.1.6347.1.1.45.0 | EXD 1 – Suction Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.46.0 | EXD 1 – Overheating | K | |
| .1.3.6.1.4.1.6347.1.1.47.0 | EXD 1 – Evaporation Pressure | Barg | |
| .1.3.6.1.4.1.6347.1.1.48.0 | EXD 1 – Evaporation Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.49.0 | EXD 1 – Discharge Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.50.0 | EXD 2 – Valve Opening | % | |
| .1.3.6.1.4.1.6347.1.1.51.0 | EXD 2 – Suction Temperature | °C | |
| .1.3.6.1.4.1.6347.1.1.52.0 | EXD 2 – Overheating | K | |
| .1.3.6.1.4.1.6347.1.1.53.0 | EXD 2 – Evaporation Pressure | Barg | |
| .1.3.6.1.4.1.6347.1.1.54.0 | EXD 2 – Evaporation Temperature | °C | |

| Name | Description | Mode |
|-----------------------------------|--|------|
| Unit status | | |
| .1.3.6.1.4.1.6347.1.1.64.0 | Unit ON | R |
| .1.3.6.1.4.1.6347.1.1.65.0 | Fans emergency mode active | |
| .1.3.6.1.4.1.6347.1.1.66.0 | Night standby active | |
| .1.3.6.1.4.1.6347.1.1.67.0 | Power supply with UPS active | |
| .1.3.6.1.4.1.6347.1.1.68.0 | Energy Saving active | |
| .1.3.6.1.4.1.6347.1.1.69.0 | Emergency depression active | |
| .1.3.6.1.4.1.6347.1.1.70.0 | Antifreeze function intervention | |
| Components status | | |
| .1.3.6.1.4.1.6347.1.1.71.0 | Supply Fan 1 Control | R |
| .1.3.6.1.4.1.6347.1.1.72.0 | Supply Fan 2 Control | |
| .1.3.6.1.4.1.6347.1.1.73.0 | Exhaust Fan 1 Control | |
| .1.3.6.1.4.1.6347.1.1.74.0 | Exhaust Fan 2 Control | |
| .1.3.6.1.4.1.6347.1.1.75.0 | Motorised Dampers Control | |
| .1.3.6.1.4.1.6347.1.1.76.0 | Antifreeze Pump Control | |
| .1.3.6.1.4.1.6347.1.1.77.0 | Compressor 1 Control | |
| .1.3.6.1.4.1.6347.1.1.78.0 | Compressor 2 Control | |
| .1.3.6.1.4.1.6347.1.1.79.0 | Heat Recovery Pump Control | |
| .1.3.6.1.4.1.6347.1.1.80.0 | Remote Unit Status | |
| .1.3.6.1.4.1.6347.1.1.81.0 | Non-critical alarm | |
| .1.3.6.1.4.1.6347.1.1.82.0 | Serious Alarm | |
| .1.3.6.1.4.1.6347.1.1.83.0 | Dirty filters alarm | |
| .1.3.6.1.4.1.6347.1.1.84.0 | Recirculation Damper Opening Control | |
| .1.3.6.1.4.1.6347.1.1.85.0 | Recirculation Damper Closing Control | |
| .1.3.6.1.4.1.6347.1.1.86.0 | Heat Recovery Cycle Inversion Valve Control (HP) | |
| Internal humidifier status | | |
| .1.3.6.1.4.1.6347.1.1.87.0 | Humidifier Electrodes | R |
| .1.3.6.1.4.1.6347.1.1.88.0 | Water filling valve | |
| .1.3.6.1.4.1.6347.1.1.89.0 | Water drain valve | |
| .1.3.6.1.4.1.6347.1.1.90.0 | Water level | |
| Controls | | |
| .1.3.6.1.4.1.6347.1.1.91.0 | OFF via supervisor | R/W |
| .1.3.6.1.4.1.6347.1.1.92.0 | Humidification Enabling | |
| .1.3.6.1.4.1.6347.1.1.93.0 | Night Standby Activation | |
| .1.3.6.1.4.1.6347.1.1.94.0 | Reset alarms | |

Gateway SNMP ProtoNode RER

| Name | Description | Mode |
|-----------------------------|---|------|
| Unit alarms | | |
| .1.3.6.1.4.1.6347.1.1.95.0 | Broken Humidity Probe | R |
| .1.3.6.1.4.1.6347.1.1.96.0 | Broken Ambient Temperature Probe | |
| .1.3.6.1.4.1.6347.1.1.97.0 | Air Supply Pressure Probe 1 Broken | |
| .1.3.6.1.4.1.6347.1.1.98.0 | Air Supply Pressure Probe 2 Broken | |
| .1.3.6.1.4.1.6347.1.1.99.0 | Supply Duct Pressure Probe Broken | |
| .1.3.6.1.4.1.6347.1.1.100.0 | Return Pressure Probe Broken | |
| .1.3.6.1.4.1.6347.1.1.101.0 | Supply Temperature Probe Broken | |
| .1.3.6.1.4.1.6347.1.1.102.0 | Outside Temperature Probe Broken | |
| .1.3.6.1.4.1.6347.1.1.103.0 | Antifreeze Temperature Probe Broken | |
| .1.3.6.1.4.1.6347.1.1.104.0 | ** SERIOUS ALARM ** Compressors | |
| .1.3.6.1.4.1.6347.1.1.105.0 | Compressor 1 general alarm | |
| .1.3.6.1.4.1.6347.1.1.106.0 | Compressor 2 general alarm | |
| .1.3.6.1.4.1.6347.1.1.107.0 | Low Pressure Compressor 1 | |
| .1.3.6.1.4.1.6347.1.1.108.0 | Low Pressure Compressor 2 | |
| .1.3.6.1.4.1.6347.1.1.109.0 | Heating Safety Thermostat | |
| .1.3.6.1.4.1.6347.1.1.110.0 | Post-heating Safety Thermostat Alarm | |
| .1.3.6.1.4.1.6347.1.1.111.0 | ** SERIOUS ALARM ** Supply Fans | |
| .1.3.6.1.4.1.6347.1.1.112.0 | Supply Fan 1 Alarm | |
| .1.3.6.1.4.1.6347.1.1.113.0 | Supply Fan 2 Alarm | |
| .1.3.6.1.4.1.6347.1.1.114.0 | ** SERIOUS ALARM ** Return Fans | |
| .1.3.6.1.4.1.6347.1.1.115.0 | Return Fan 1 Alarm | |
| .1.3.6.1.4.1.6347.1.1.116.0 | Return Fan 2 Alarm | |
| .1.3.6.1.4.1.6347.1.1.117.0 | Clogged External Air Filter | |
| .1.3.6.1.4.1.6347.1.1.118.0 | Clogged Supply Air Filter | |
| .1.3.6.1.4.1.6347.1.1.119.0 | Clogged Return Air Filter | |
| .1.3.6.1.4.1.6347.1.1.120.0 | Generic External Alarm | |
| .1.3.6.1.4.1.6347.1.1.121.0 | General External Humidifier | |
| .1.3.6.1.4.1.6347.1.1.122.0 | Water Presence Sensor | |
| .1.3.6.1.4.1.6347.1.1.123.0 | Heat Recovery Pump Alarm | |
| .1.3.6.1.4.1.6347.1.1.124.0 | High Ambient Temperature | |
| .1.3.6.1.4.1.6347.1.1.125.0 | Low Ambient Temperature | |
| .1.3.6.1.4.1.6347.1.1.126.0 | High Ambient Humidity | |
| .1.3.6.1.4.1.6347.1.1.127.0 | Low Ambient Humidity | |
| .1.3.6.1.4.1.6347.1.1.128.0 | High Supply Temperature | |
| .1.3.6.1.4.1.6347.1.1.129.0 | Low Supply Temperature | |
| .1.3.6.1.4.1.6347.1.1.130.0 | ** SERIOUS ALARM ** Antifreeze | |
| .1.3.6.1.4.1.6347.1.1.131.0 | ** SERIOUS ALARM ** Smoke/Fire Presence | |
| .1.3.6.1.4.1.6347.1.1.132.0 | ** SERIOUS ALARM ** Dampers Status | |
| .1.3.6.1.4.1.6347.1.1.133.0 | Antifreeze Pump | |

| Name | Description | Mode |
|--|--|------|
| Internal humidifier alarm | | |
| .1.3.6.1.4.1.6347.1.1.134.0 | Humidifier: No Link | R |
| .1.3.6.1.4.1.6347.1.1.135.0 | Humidifier: Internal Memory Error | |
| .1.3.6.1.4.1.6347.1.1.136.0 | Humidifier: Parameter Error | |
| .1.3.6.1.4.1.6347.1.1.137.0 | Humidifier: Electrode High Current | |
| .1.3.6.1.4.1.6347.1.1.138.0 | Humidifier: Low Steam Flow Rate | |
| .1.3.6.1.4.1.6347.1.1.139.0 | Humidifier: No Discharge | |
| .1.3.6.1.4.1.6347.1.1.140.0 | Humidifier: Maintenance Time Expired | |
| .1.3.6.1.4.1.6347.1.1.141.0 | Humidifier: No Water | |
| .1.3.6.1.4.1.6347.1.1.142.0 | Humidifier: Cylinder Maintenance | |
| .1.3.6.1.4.1.6347.1.1.143.0 | Humidifier: Cylinder Burnt Out | |
| .1.3.6.1.4.1.6347.1.1.144.0 | Humidifier: Foam Presence | |
| .1.3.6.1.4.1.6347.1.1.145.0 | Humidifier: Life Timer Expired | |
| .1.3.6.1.4.1.6347.1.1.146.0 | Humidifier: High Water Level | |
| .1.3.6.1.4.1.6347.1.1.147.0 | Humidifier: High Water Conductivity | |
| .1.3.6.1.4.1.6347.1.1.148.0 | Humidifier: Connection Error | |
| .1.3.6.1.4.1.6347.1.1.149.0 | Humidifier: High Water Conductivity | |
| Electronic expansion valve alarms | | |
| .1.3.6.1.4.1.6347.1.1.150.0 | EXD 1 - Communication Error | R |
| .1.3.6.1.4.1.6347.1.1.151.0 | EXD 1 - Temperature Probe Error | |
| .1.3.6.1.4.1.6347.1.1.152.0 | EXD 1 - Pressure Probe Error | |
| .1.3.6.1.4.1.6347.1.1.153.0 | EXD 1 - No Refrigerant Selected | |
| .1.3.6.1.4.1.6347.1.1.154.0 | EXD 1 - Drain Temperature Sensor Error | |
| .1.3.6.1.4.1.6347.1.1.155.0 | EXD 2 - Communication Error | |
| .1.3.6.1.4.1.6347.1.1.156.0 | EXD 2 - Temperature Probe Error | |
| .1.3.6.1.4.1.6347.1.1.157.0 | EXD 2 - Pressure Probe Error | |
| .1.3.6.1.4.1.6347.1.1.158.0 | EXD 2 - No Refrigerant Selected | |
| .1.3.6.1.4.1.6347.1.1.159.0 | DC compressor high discharge temperature alarm | |

9 TROUBLESHOOTING AND FAULTS ELIMINATION

9.1 NO COMMUNICATION ON THE SERIAL BOARD AND RTU MODBUS

In case of no RTU Modbus serial port communication, verify:

- That the communication LEDs are flashing. If fixed, check the wiring of the serial port.
- Verify that the Baud Rate of the connected units is 19200 Baud.
- Verify that the ID of the connected units corresponds to that set.

9.2 NO CONNECTION ON THE MS/TP SNMP SERIAL PORT

In case of no MS/TP SNMP serial port communication, verify:

- That the communication LEDs are flashing. If fixed, check the wiring of the serial port.
- Verify the configured Baud Rate.
- Verify the configured ID.
- Verify the configured Word Length, Parity and Stop Bits

9.3 NO COMMUNICATION ON THE ETHERNET PORT

In case of no communication in the Ethernet port, verify:

- That the IP address is set correctly.
- That the Subnet Mask is set correctly.
- That the SNMP IP communication port is configured correctly..



TECNAIR LV CLOSE CONTROL AIR CONDITIONING

TECNAIR LV S.p.A.

21040 Uboldo - Varese - Italy
Via Caduti della Liberazione, 53
Phone + 39 02.96.99.11.1
Fax. + 39 02.96.78.15.70
E-mail: sales@tecnairlv.it
www.tecnairlv.it



SNMP ProtoNode RER Gateway manual
"TRANSLATIONS OF ORIGINAL INSTRUCTIONS"

TECNAIR LV adopts a policy of continuous development, accordingly, the company reserves the right to make changes and improvements to any product described herein, without forewarning. The technical data and dimensions are not binding.