



KMED-3500N

Remote Monitoring and
Diagnostic Controller for
Scientific and Medical Refrigerators

KMED-3500N

1.0	INTRODUCTION	3
2.0	SYSTEM ARCHITECTURE	3
3.0	SAFETY	4
4.0	DISPLAY PANEL OPTIONS	5
5.0	TECHNICAL FEATURES	6
5.1	BOARD LAYOUT	7
5.2	IO MODULE	9
6.0	PRODUCT OVERVIEW	9
6.1	OPTIONAL FEATURES	11
6.2	INSTALLATION OVERVIEW	11
6.3	SENSORS QUICK GUIDE	11
7.0	INSTALLATION	12
7.1	DISPLAY PANEL	12
7.2	CONTROLLED BOARD	12
7.3	ANALOG AND DIGITAL INPUTS	12
7.4	RELAY OUTPUTS U1-U2-U3-U4-U5-U6	14
8.0	COOLING	15
8.1	THERMOSTATING	15
9.0	REMOTE SMS COMMANDS	15
10.0	AIMOT-MEDICAL	19

KMED-3500N

1.0 INTRODUCTION

The remote monitoring and diagnostic controller KMED-3500N provides a comprehensive solution to monitor medical and scientific refrigerators of any age, operating condition and any technology. whether the refrigerator is at the end or beginning of its life cycle, KMED3500 is flexible enough to become the best option to your monitoring, notification and diagnostic needs.

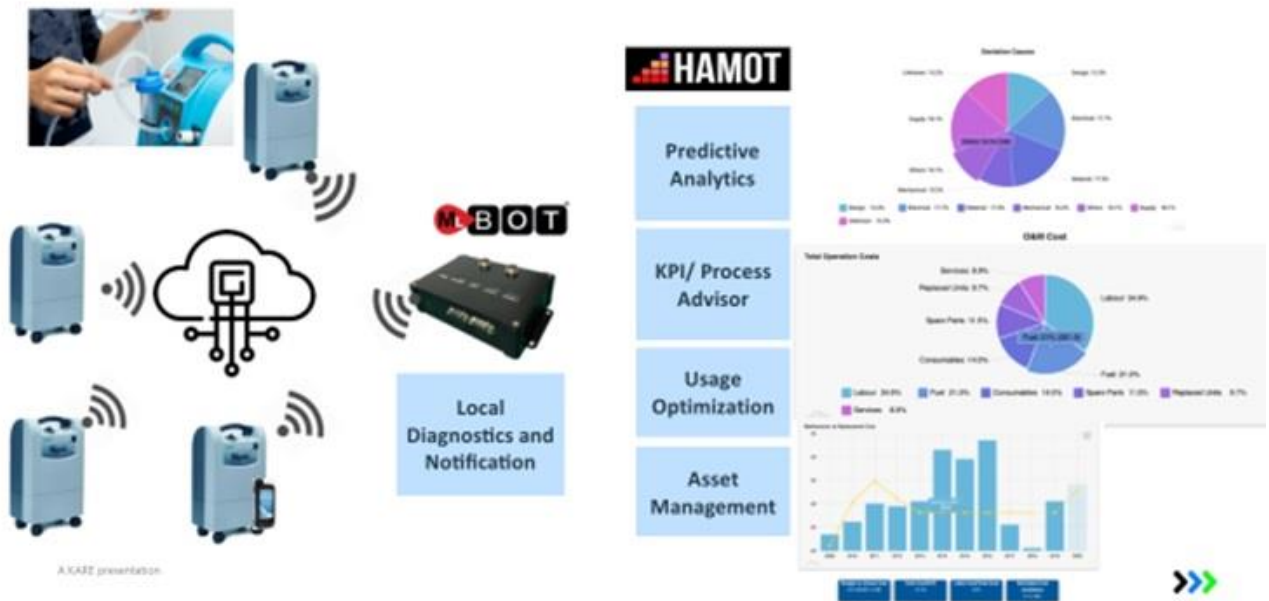
KMED-3500N automatically performs parts health check status, diagnose abnormal operating conditions and provides authorized users with notification over SMS, a website dashboard and e-mail. (Notification across user's intranet systems are also available upon request) KMED-3500N is part of the Medical AIMOT product family and can be installed in units operating outdoor or in medical shelters or tents also in harsh environments. Thanks to its non-invasive communication links available onboard, signal readers and its optical reading module.

KMED-3500N can be installed on any refrigerator from any manufacturer allowing a non- invasive installation and keeping manufacturer's warranties intact without interfering with existing inspection and maintenance programs of the units.

KMED-3500N allows users to largely improve routine inspection and maintenance reducing labor-intensive activities and helping medical facilities to optimize maintenance and inspection of large population of assets. As an optional feature, upon request, KMED-3500N is supplied with KMED mobile application to allow users to easily access to the status of KMED 3500N controllers and monitor unit's parameters on a user friendly dashboard.

2.0 SYSTEM ARCHITECTURE

Medical



3.0 SAFETY

ATEX controllers do not provide for any protection of the loads connected, therefore they must be protected against short circuits, overcurrent's or overvoltage's and in temperature with the use of protective devices suitable for the purpose such as fuses, magneto thermal switches, etc. Failure to comply with safety standards during installation, such as failure to observe the instructions in this instruction manual, could reduce the safety level of our controllers.

ATEX controllers have a degree of immunity to electromagnetic disturbances in compliance with EEC directives. To reduce the causes of radiated or conducted type disturbances that could propagate through the probes, the loads and the power supply of the controller, cabling the wires avoiding their passage adjacent to high current loads or electromagnetic fields.

If temperature probes are in contact with food substances, verify that these comply with the health regulations for use in the food sector.

In the event that the controllers are used in equipment in which a malfunction could result in a risk situation for people or animals, adequate safety systems must necessarily be provided that enter into operation automatically in the event of malfunctioning.

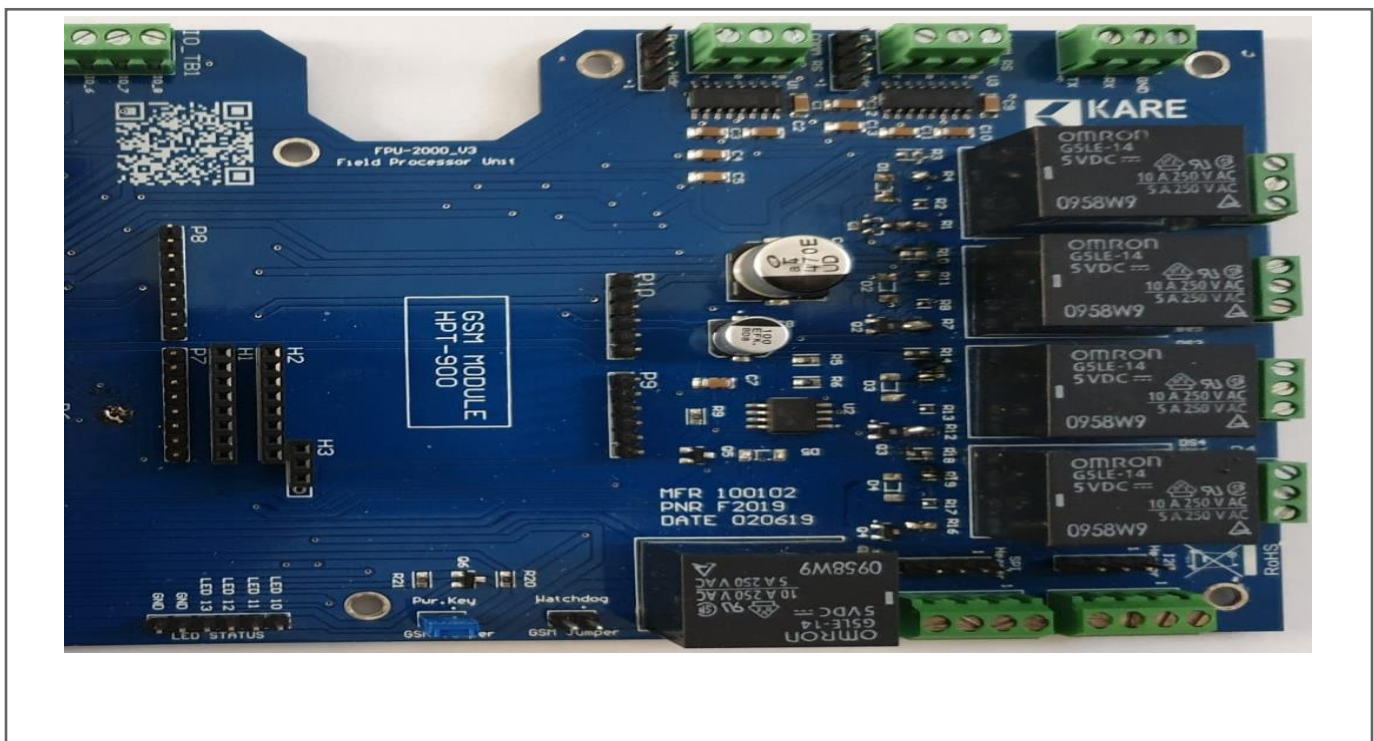
4.0 DISPLAY PANEL OPTIONS



KMED-3500N

5.0 TECHNICAL FEATURES

	PRO1 CONTROLLER AND MONITOR
Power Supply	12Vac – 50/60Hz
Dimensions	220x107x45 mm
Logic	Dual Microcontroller
Inputs	Nr 3 NTC [-49.9, +99.9]°C Nr 2 PT100 [-99.9, +49.9]°C Nr 3 Digital inputs: door switch and high pressure switch Nr 1 Back-up battery
Relay Outputs	30A-30A-16A-5A-5A-5A + 5A SPDT remote alarm relay
Solid State Outputs	LED: Led Bar driver[max 20W] KEY: Electric key driver CO2: CO2 electric valve driver
Gates	Nr 2 CANBUS
Sensors	Power Supply Board Temperature



KMED-3500N

TB1	1	(+)	Power Supply 7-9 Vdc (120mA @ 7.2V)
	2	(-)	

TB2	1	AI0	Analog Input	0-5V	10-Bit
	2	AI1	Analog Input	0-5V	10-Bit
	3	AI2	Analog Input	0-5V	10-Bit
	4	AI3	Analog Input	0-5V	10-Bit
	5	AI8	Analog Input	0-5V	10-Bit
	6	AI9	Analog Input	0-5V	10-Bit
	7	AI10	Analog Input	0-5V	10-Bit
	8	AI11	Analog Input	0-5V	10-Bit

P16	1	AI4	Analog Input	0-5V	10-Bit
	2	AI5	Analog Input	0-5V	10-Bit
	3	AI6	Analog Input	0-5V	10-Bit
	4	AI7	Analog Input	0-5V	10-Bit

P19	1	AI2	Analog Input	0-5V	10-Bit
	2	AI3	Analog Input	0-5V	10-Bit
	3	AI4	Analog Input	0-5V	10-Bit
	4	AI5	Analog Input	0-5V	10-Bit

TBR1	1	NC	Coil 5VDC	10A 250V CA 10A 30V CC
	2	Common		
	3	NO		

TBR2	1	NC	Coil 5VDC	10A 250V CA 10A 30V CC
	2	Common		
	3	NO		

TBR3	1	NC	Coil 5VDC	10A 250V CA 10A 30V CC
	2	Common		
	3	NO		

TBR4	1	NC	Coil 5VDC	10A 250V CA 10A 30V CC
	2	Common		
	3	NO		

TBC1	1	TXD	RS-232 Communication Port 1
	2	RXD	
	3	GND	

TBC2	1	TXD	RS-232 Communication Port 2
	2	RXD	
	3	GND	

P13	1	TXD	TTL Communication Port 1
	2	RXD	
	3	3V3	
	4	GND	

P14	1	TXD	TTL Communication Port 2
	2	RXD	
	3	3V3	
	4	GND	

TB3	1	DIO1	Digital Input/Output	0-5V	Max. Current 40.0mA
	2	DIO2	Digital Input/Output	0-5V	Max. Current 40.0mA
	3	DIO3	Digital Input/Output	0-5V	Max. Current 40.0mA
	4	DIO4	Digital Input/Output	0-5V	Max. Current 40.0mA
	5	DIO5	Digital Input/Output	0-5V	Max. Current 40.0mA
	6	DIO6	Digital Input/Output	0-5V	Max. Current 40.0mA
	7	DIO7	Digital Input/Output	0-5V	Max. Current 40.0mA
	8	DIO8	Digital Input/Output	0-5V	Max. Current 40.0mA

TB4	1	DIO9	Digital Input/Output	0-5V	Max. Current 40.0mA
	2	DIO10	Digital Input/Output	0-5V	Max. Current 40.0mA
	3	DIO11	Digital Input/Output	0-5V	Max. Current 40.0mA
	4	DIO12	Digital Input/Output	0-5V	Max. Current 40.0mA
	5	DIO13	Digital Input/Output	0-5V	Max. Current 40.0mA
	6	DIO14	Digital Input/Output	0-5V	Max. Current 40.0mA
	7	DIO15	Digital Input/Output	0-5V	Max. Current 40.0mA
	8	DIO16	Digital Input/Output	0-5V	Max. Current 40.0mA

TB5	1	GND	Common Ground
	2	GND	Common Ground
	3	GND	Common Ground
	4	GND	Common Ground
	5	GND	Common Ground
	6	GND	Common Ground
	7	GND	Common Ground
	8	GND	Common Ground

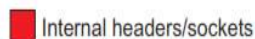
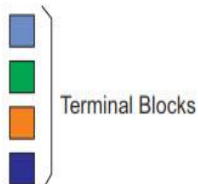
TBC4	1	TXD	TTL Communication Port 3
	2	RXD	
	3	GND	

TBC5	1	MISO	SPI BUS
	2	MOSI	
	3	SCK	
	4	GND	

P20	1	MISO	SPI BUS
	2	MOSI	
	3	SCK	
	4	GND	

TBC3	1	SDA	I2C BUS
	2	SCL	
	3	VCC	
	4	GND	

P18	1	SDA	I2C BUS
	2	SCL	
	3	VCC	
	4	GND	



5.2 IO MODULE



6.0 PRODUCT OVERVIEW

KMED-3500 is supplied as a kit of three component parts:

- The controller
- The reader and
- The communication cable that connects reader module with controller module.

The controller module provides equipment diagnostics and notification functions while the reader module reading and graphical interpretation of text and images. The controller can be powered from 110-240 VAC or DC from 9VD to 24 VDC source. Other DC power voltages are available upon request. The controller supplies power to the reader module and communicates with it across the communication cable that connects them. Once the reader is placed in position to read and calibrated, KMED-3500 is ready to work

As an optional intern, upon request the controller module can be supplied with a GSM module that allows notifications, outgoing emergency phone calls to designated phone numbers. The GSM module needs a SIM card to work. The SIM card must be inserted into the GSM SIM slot. The controller module can handle initialization of SIM card and automatic registration with the local mobile phone provider. The SMS allows the user to be notified in case of specific events pre-configured by the user. For example, in the event of

KMED-3500N

any alarm, KMED-3500 can notify the designated user over SMS messages, which describe the type of event, location and identification tag of the equipment(unit-to-monitor).

The user can also configure KMED-3500 TO AUTOMATICALLY PLACE AN EMERGENCY CALL over the SIM phone lure GSM module) to a designated user of users in case of alarm.

The CONTROLLER MODULE can handle UP TO 143 SENSORS, either hardwired to individual terminals or connected in multi-drop bus, 16 digital inputs or 16 digital outputs and be connected in multi-drop bus with other 3 controller and remote input cards.

The controller module manages alarms, sensors, input switches and drives resistive loads, motors, fans, and valves of medical and scientific equipment (e.g. refrigerators) including:

- Thermostat switches
- Temperature sensors NTC PTC/Pt100
- Thermocouples
- Pressure sensors
- Dust-in-air sensors
- NOx sensors
- CO and CO2 sensors
- Ambient relative humidity sensors
- Ambient temperature sensors
- Evaporator unit sensor status switch
- Condenser sensor status switch
- Condenser fan
- Deicing resistor
- Drain valves
- Drain resistor
- Defrost valve status switch
- Defrost valve (on/off commands)
- Pressurization switch
- MAIS voltage sensor
- Internal battery voltage sensor

KMED-3500 allows controlling medical and scientific equipment, such as laboratory refrigerators, to perform functions including:

- Open close valves
- Power heating elements
- Drive compressors,
- Switch and monitor cooling units
- Activate/deactivate economic power consumption modes
- Turn on off deicing elements
- Pressurize/depressurize cabinets
- Detect malfunctions, Detect deviations in operating parameters, temperature drifts,
- Pressure loss, pressure increase, sudden changes, abnormal trends
- Generate warnings for end-of-life of units, such as compressors, motors, etc.

- Notify events, alarms and changes in the unit-to-monitor set operation timers, duty cycles of motors, on off valves.
- Control of pumps compressors, motor pm and much more.

6.1 OPTIONAL FEATURES

- 4-20mA input cards
- Bluetooth module
- Dynamic OR display for scanning
- Wi-fi module
- Key-chain remote for on/off
- Solar panel battery operation function
- Ambient pressure, relative humidity, temperature and dust-in-air sensors
- CO.CO2, NOx sensors
- CCTV camera supply and integration
- Remote physical access control mode programming
- GSM SIM card module for SNS notification
- Internal battery back up
- Controller module DIN rail mounting.

6.2 INSTALLATION OVERVIEW

Thanks to its durable contact glued strips both the controller and reader modules can be easily mounted on any outside body part of the mit-to-monitor (e.g. refrigerator), preferably the controller module should be installed on top of the unit or on any of the sides. Alternatively, the controller module can be attached by screws to the outer body parts of the unit to monitor This may require drilling holes on the imit outside body. If drilling is your preferred option for mounting, the controller enclosure provides a top cover the must be unscrewed from the enclosure body to allow the mounting screws to pass through the bottom plate of the controller module enclosure. For details, you can see mounting instructions on KMED-3800 installation manual.

Due to potential disruption of cooling or breaching warrant pour equipment, we do not recommend stilling on semsithe pores of the equipment mano mortor eg refrigerator) Please verify with the manufacturer prior to drill an any parts of the enclosure The reader module shall be placed below the display to read. The reader shall be firmly attached to the unit enclosure by the durable contact glued strip already provided with KMED-3500 lit.

The reader module shall not be moved after installation. It is intended for permanent use since relocating the reader module would require recalibration of the reader Calibrating the reader is normally done by our local service supplier and if necessary. We can assist users to perform calibration without the need of our local service support

Please call us for information about user assisted installation.

6.3 SENSORS QUICK GUIDE

For measuring air temperature inside a volume, install the NIC PTC or PT100 thermostat sensor in a position away from air flows to ensure proper readings PT100 sensor can be 2-wire or 3-wire or 4- wire type.

Position the defrost-end evaporator sensors between the lamellar pack fins in order to achieve the required sensitivity of temperature measurement. For refrigerating units with electric defrosting, the

sensors must be positioned at the beginning of the circuit and locked in contact with the evaporator pack tube by bending the aluminum slats around the probe bulb. For the groups with hot gas defrost the probe must be positioned at the end of the circuit and locked in contact with the evaporator pack pipe.

Fix the condenser sensor with a clamp on the condenser outlet tube. The user can select specific digital inputs for specific functions, such as the micro-switch door, which can work as either NO or NC contact. Other digital inputs can be used for the high pressure switches generally two are used in refrigerators), which can also work as either NO or NC contact. The actions of the relay outputs can be configured by the user with minimum intervention by our local service supplier. Operating modes of compressor units can be set with upper and lower band regulation against a reference value. The compressor stop will occur when the value measured by the temperature sensor has reached the reference value - low band °C and can also be set with a countdown timer such as time off delay. The compressor will restart when the value measured by the temperature sensor has reached the reference value + high band °C. The compressor operation during thermostatic cycles can be controlled by a thermic parameter which prevents cycling start/stops of the compressor. A parameter to define the starting delay time of the compressor can be set in the controller module. The hourly compressor operating time percentage is calculated from the pull-down and recovery phases after defrost. The value is stored in volatile memory so that a shutdown of the controller will reset the value. The compressor operating hours with hourly resolution are stored. If the compressor operating percentage calculated within 24 hours exceeds the value defined by a pre-set parameter, the COMPRESSOR USE warning alarm is recorded and transmitted by SMS and buzzer and strobe light activated once, if pre-configured as such, otherwise, the event is not recorded and warnings do not take place. The controller can be programmed to silence the buzzer and strobe lights as needed during Warning conditions.

7.0 INSTALLATION

7.1 DISPLAY PANEL

The size of the drilling template for the insertion of the display frame varies according to the size of the selected panel (see reference manuals). The electrical connection between the panel and the controller must only be carried out using the 4-pin serial cable provided by ATEX. The display panel must be mounted in a position that is not subjected to shocks, vibrations, splashes of water and in any case where the temperature and humidity do not exceed the specification values.

7.2 CONTROLLED BOARD

The device must be powered at low voltage at 12Vac; the dimensioning of the power transformer must be weighed to the type of loads applied to the LED, KEY and CO2 driver outputs. The types of transformers provided are from 20-40-60VA with 110Vac or 230Vac inputs. When inserting the connectors, do not bend the printed circuit board which could damage or break components. Switch on the power supply for 230 / 110Vac loads on N = neutral, L = line and PE = ground respecting the positions. The pins of the connectors marked N are in parallel with each other. The U1-U2-U3-U4-U5-U6 pins report the input phase when the respective relays are enabled. Using the RL1 – RL6 parameters, the outputs can be configured according to the required action described in the table on page 9. The board can be fastened using plastic spacers or using the fixing hooks of the DIN bar support that can be supplied on request.

7.3 ANALOG AND DIGITAL INPUTS

7.3.1 Thermostat probe NTC/ PT100

Install the NTC or PT100 thermostat probe in a position not subject to air flows in order to measure the real temperature of the refrigerated room. The NTC or PT100 probe is enabled by the IS1 super parameter

and they are mutually exclusive. The PT100 probe can be 2-wire or 3-wire or 4-wire type. Set the switch SW1 on the right for 2 or 4-wire probe, on the left for 3-wire probe. To connect the PT100 probe to the board use a 4-pin male connector 3.81 step. To connect the NTC probe use a 6-pin male connector 3.81 step. OF1 parameter is dedicated to the calibration of the thermostat probe, both PT100 and NTC.

7.3.2 EVAPORATOR PROBE S2

Position the defrost-end evaporator probe between the lamellar pack fins in order to obtain a sufficient temperature detection sensitivity. For refrigerating units with electric defrosting, the probe must be positioned at the beginning of the circuit and locked in contact with the evaporator pack tube by bending the aluminum slats around the probe bulb. For the groups with hot gas defrost the probe must be positioned at the end of the circuit and locked in contact with the evaporator pack pipe. To connect the NTC probe to the board, use a 6-pin male connector, 3.81 step. OF2 parameter is dedicated to the calibration of the S2 evaporator probe.

7.3.3 CONDENSER PROBE S3

Fix the condenser probe with a clamp on the condenser outlet tube. To connect the NTC probe to the board, use a 6-pin male connector, 3.81 step. OF3 parameter is dedicated to the calibration of the S3 condenser probe.

7.3.4 MONITOR PROBE PT100M

Install the PT100 monitor probe in a position not subject to direct air flow. The temperature read by monitor probe is the one shown on the display and designed to record the alarms temperature. The PT100 probe can be 2-wire or 3-wire or 4-wire type. To connect the PT100M monitor probe to the board, use a 4-pin male connector.

7.3.5 DIGITAL INPUT D1

D1 digital input is dedicated to the micro-switch door, observing the configurable contact N.O. or N.C. To connect the micro-switch cables to the board, use a 2-pin or 6-pin male connector.

7.3.6 DIGITAL INPUT D2

D2 digital input is dedicated to the high pressure switch, observing the configurable contact N.O. or N.C. To connect the pressure switch cables to the board, use a 2-pole or 6-pole male connector.

7.3.7 DIGITAL INPUT D3

D3 digital input is dedicated to the 2nd unit high pressure switch, observing the configurable contact N.O. or N.C. To connect the pressure switch cables to the board, use a 2-pole or 6-pole male connector.

KMED-3500N

7.4 RELAY OUTPUTS U1-U2-U3-U4-U5-U6

The actions of the relay outputs can be configured through the parameters RL1-RL7 with reference to the values shown in the following table and respecting the maximum current admitted on each output.

I/O's	Quantity	Type/Resolution	TB#	Used For	Remarks
Analog Inputs	8	10 bits	2	DC Sensors	*4-20mA or 0-5 VDC Sensors
Analog Inputs	4	10 bits	P16	DC Sensors	*4-20mA or 0-5 VDC Sensors
Analog Inputs	4	10 bits	P19	DC Sensors	*4-20mA or 0-5 VDC Sensors
Relay Digital Outputs	4	Coil 5vdc	TBR1 TO 4	AC or DC Loads 10 A 250 VAC	Beacons/ Strobelights horn/butters
RS-232 Communications	2	Tx, Rx, GND	TBC 1 TO 2	RS-232 DEVICES	
RS-485 Communications	2	TTL: Tx, Rx, 3v3, GND	P13, P14	RS-485 DEVICES	
Configurable Digital Inputs/ Outputs	16	0-5VDC	TBC3, TB4	5VDC Switches/ DC Loads	Max Current 40mA
Sensors DataBus	2	50A, SCL, VCC, GND	TBC3, P18	Sensors/ Devices	upto 127 Sensors
Controllers Data Bus	2	MISO, MOSI, SCK, GND	TBC5, P20	Controllers SD Memory Peripherals	upto 4 Devices

* It Requires Current Converter for 4-20 mA Sensors

7.4.1 LED OUTPUT

The solid state LED output (max 20 Watt) drives a 12Vdc LED lighting bar with logic required for turning it on and off. To connect the cables to the board, use a 2-pin male connector, observing the indicated polarity.

7.4.2 KEY OUTPUT

When an electric-key is provided for opening the fridge door, this can be controlled by the solid state output KEY 12Vdc (max 600mA) with activation from the display panel. To connect the cables to the board, use a 2-pin male connector, observing the indicated polarity.

7.4.3 CO2 OUTPUT

If the cooling back-up is foreseen, the CO2 solid-state output drives the solenoid valve of the delivery cylinder with the functions. To connect the cables to the board, use a 2-pin male connector.

7.4.4 I/O FLYING CONNECTORS

8.0 COOLING

8.1 THERMOSTATING

It is the main operating mode for maintaining the cold room temperature at the set. The regulation is of the upper and lower band type with reference to the set and to the HYH and HYL regulation differentials with reference to the relay configured with action 01. The compressor stop will occur when the value measured by the probe S1 has reached the value [SPU-HYL] °C and time DAC expired. The compressor will restart when the value measured by probe S1 has reached the value [SPU+HYH] °C. The ADL parameter prevents close starts of the compressor during the thermostatic cycles. The parameter ASS defines the starting delay time of the compressor at start-up. For HYH = 0 all the controller actions are disabled.

8.1.1 PCOMPRESSOR PERCENT USAGE

The hourly compressor operating time percentage is calculated from the pull-down and recovery phases after defrost. The value is stored in volatile memory so that a shutdown of the controller will reset the value.

8.1.2 COMPRESSOR HOURS COUNTER

The compressor operating hours with hourly resolution are stored. The data is converted and displayed on the display in working hours.

8.1.3 WARNING COMPRESSOR USAGE

If the compressor operating percentage calculated within 24 hours exceeds the value defined by the CPH parameter, the COMPRESSOR USE warning is shown on the display; the event is not recorded and the adjustment does not change. The cancellation of the message coincides with the silence of the buzzer.

9.0 REMOTE SMS COMMANDS

No.	Command	Description	Example of SMS message reply	Function Group
1	setdate	set the system date	Hospital NY-203. Fridge 21-202. [DD/MM/YY -HH:MM:SS] changed succesfully	Time setting
2	beacon	turn beacon on	Hospital PA-345. Beacon & buzzer switched ON	Notification
3	beacoff	turn beacon off	Hospital PA-345. Beacon & buzzer switched OFF	Notification
4	chg_pwd	change system password	Hospital CO-678. Password changed succesfully	Password management
5	getdate	get date & time from mobile network	Hospital OR-245. Local Time @: hh:mm:ss	Time setting
6	reset	controller reset	Hospital NJ-542. Reset requested	IO board management
7	readch1	read modbus card - Analog Input 1	Hospital WY-326. IO Board CH 1:	IO board management
8	readch2	read modbus card - Analog Input 2	Hospital WY-326. IO Board CH 2:	IO board management
9	readch3	read modbus card - Analog Input 3	Hospital WY-326. IO Board CH 3:	IO board management

KMED-3500N

No.	Command	Description	Example of SMS message reply	Function Group
10	readch4	read modbus card - Analog Input 4	Hospital WY-326. IO Board CH 4:	IO board management
11	ack_ch1	Analog Input 1 - Alarm acknowledged	Hospital WY-326. ack command accepted	IO board management
12	ack_ch2	Analog Input 2 - Alarm acknowledged		IO board management
13	ack_ch3	Analog Input 3 - Alarm acknowledged		IO board management
14	ack_ch4	Analog Input 4 - Alarm acknowledged		IO board management
15	ack_comm_daq	Modbus Port - Alarm acknowledged		IO board management
16	ack_rst	Enable system alarm	Hospital WY-326. System Alarm: enabled	Alarm management
17	alm_disable	Disable system alarm	Hospital WY-326. System Alarm: disabled	Alarm management
18	sys_info		Hospital TX-236. SYS_INFO	Alarm management
			I/O Card OK	Alarm management
		Analog Input 1 - Value	Vandalism Status:	Alarm management
			Pressure out of range:	Alarm management
			Temperature out of range:	Alarm management
		Analog Input 2- Value	Mains Voltage:	Alarm management
		Analog Input 3 - Value		
		Analog Input 4 - Value		
19	sms_client_flg_0	Disable SIM destination CLIENT number	Hospital UT-016. Client SIM: disabled	Notification
20	sms_client_flg_1	Enable SIM destination CLIENT number	Hospital UT-016. Client SIM: enabled	Notification
21	sms_tech1_flg	Disable SIM destination TECHNICIAN 1 number	Hospital UT-016. Technician #1 SIM: disabled	Notification
22	sms_tech1_flg	Enable SIM destination TECHNICIAN 1 number	Hospital UT-016. Technician #1 SIM: enabled	Notification
23	sms_tech2_flg	Disable SIM destination TECHNICIAN 2 number	Hospital UT-016. Technician #2 SIM: disabled	Notification

KMED-3500N

No.	Command	Description	Example of SMS message reply	Function Group
24	sms_tech2_flg	Enable SIM destination TECHNICIAN 2 number	Hospital UT-016. Technician #2 SIM: enabled	Notification
25	rss	strength of the received mobile network signal	Hospital UT-016. RSSI: Marginal/ Hospital UT-016. RSSI: Poor/ Hospital UT-016. RSSI: OK / Hospital UT-016. RSSI: Good / Hospital UT-016. RSSI: Excellent /	Notification
26	ch1_alarm	Set the Analog Input 1 Alarm Threshold	Hospital VA-067. Channel threshold changed	IO board management
27	ch1_normal	Set the Analog Input 1 Normal Threshold		IO board management
28	ch2_alarm	Set the Analog Input 2 Alarm Threshold		IO board management
29	ch2_normal	Set the Analog Input 2 Normal Threshold		IO board management
30	ch3_min	Set the Analog Input 3 Low Alarm Threshold		IO board management
31	ch3_max	Set the Analog Input 3 Hi Alarm Threshold		IO board management
32	ch4_normal	Set the Analog Input 4 Normal Threshold		IO board management
33	ch4_low	Set the Analog Input 4 Low Alarm Threshold		IO board management
34	ch_thds	Read the Analog Inputs 1,2,3 & 4 Alarm Thresholds	Hospital 235. Channel Thresholds xx.xx xx.xx xx.xx xx.xx xx.xx xx.xx xx.xx	IO board management
				IO board management
				IO board management
				IO board management
				IO board management
				IO board management
				IO board management
				IO board management

KMED-3500N

No.	Command	Description	Example of SMS message reply	Function Group
			xx.xx	IO board management
				IO board management
35	Weekly temperature morning report	equipment morning temperature report. Issued weekly.	Hopsital VA-067.Wkly morning temperature:	Notification
	Weekly CP midnight report	equipment midnight temperature report. Issued weekly.	Hopsital VA-067.Wkly midnight temperature:	Notification
36	Weekly System info report	System Report	Hospital TX-389. Wkly Report	Notification
			Vandalism Status:	Notification
			Pressure out of range:	Notification
			Temperature out of range:	Notification
			Mains Voltage:	Notification

KMED-3500N

10.0 AIMOT-MEDICAL

Online Dashboard

Friday
15 Jan 2021

03:11 PM

Fridge Tag Hospital

Compressor Tag Defrosting Tag

Fridge Serial No Compressor Serial No

Asset Type Asset Group Medical

Power VAC

45.0
POWER LOSS

LOST PHASE MOTOR OVERLOAD

Room Temp °C

27.0
NORMAL

Controller Temp °C

27.0
NORMAL

Battery

OFF BATTERY ALARM

Wireless Status

LOST SIGNAL

Compressor Duty %

50

RUNNING DOOR OPEN

AVAILABLE THERMOSTAT

DEFROSTING

