



Please read this document carefully before using this product. The guarantee will be invalidated if the device is damaged by not following instructions detailed in the manual. The company shall not be responsible for any damage or losses however caused, which may be experienced as a result of the installation or use of this product.

ENDA EDT2411 TEMPERATURE CONTROLLER

Thank you for choosing ENDA EDT2411 temperature controller.



- * 35x77mm.
- * On-Off control.
- * Relay output for cooling or heating control.
- * Single NTC probe input.
- * Offset value can be entered for NTC input.
- * Compressor protection parameters.
- * On probe failure, output status can be set to ON, OFF or periodic.
- * Upper and lower limits of the setpoint adjustment.
- * Defrost duration and interval can be adjusted.
- * 6 different warning tones.
- * Deviation high and low alarm values.
- * Temperature unit can be selected °C or °F.
- * Digital input (Optional).
 - External alarm
 - Initiate defrost
- * Transfer device parameter settings with ENDAKEY
 - no power-up required.
- * RS485 ModBus protocol communication feature (optional).
- * Real Time Clock defrost and energy-saving feature.
- * CE marked according to European Norms.

Order Code: EDT2411- - - -

1 - Supply Voltage

- 110.....110V AC
- 230.....230V AC
- 24.....24V AC/DC
- 12.....12V AC/DC
- SM.....9-30V DC/7-24V AC

2-Output

- R..... 8A relay output
- P..... 20A relay output

4- ModBus

- RS.....ModBus (optional)

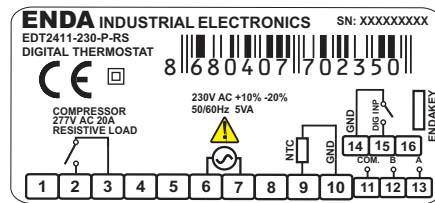
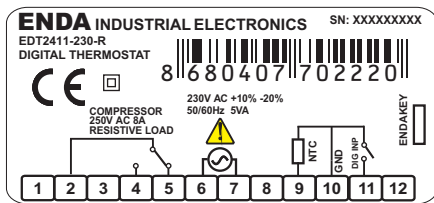
3- RTC

- Real time clock (optional)
- (Only valid for 8A relay output devices)

CONNECTION DIAGRAM



ENDA EDT2411 is intended for installation in control panels. Make sure that the device is used only for intended purpose. The electrical connections must be carried out by a qualified staff and must be according to the relevant locally applicable regulations. During an installation, all of the cables that are connected to the device must be free of electrical power. The device must be protected against inadmissible humidity, vibrations, severe soiling and make sure that the operation temperature is not exceeded. The cables should not be close to the power cables or components.

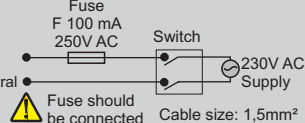


Equipment is protected throughout by DOUBLE INSULATION

Holding screw 0.4-0.5Nm.

NOTE: SUPPLY:

184-253V AC 50/60Hz 4VA



Note:

- 1) Mains supply cords shall meet the requirements of IEC 60227 or IEC 60245.
- 2) In accordance with the safety regulations, the power supply switch shall bring the identification of the relevant instrument and it should be easily accessible by the operator.

ENVIRONMENTAL CONDITIONS

| | |
|-----------------------------|---|
| Ambient/storage temperature | 0 ... +50°C/-40 ... 85°C (without icing) |
| Relative humidity | Max. humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C. |
| Protection class | According to EN60529; Front panel: IP65 Rear panel : IP20 |
| Height | Max. 2000m |



Do not use the device in locations subject to corrosive and flammable gases.

ELECTRICAL CHARACTERISTICS

| | |
|---------------------|--|
| Supply voltage | 230V AC +%10 -%20, 50/60Hz or 12/24 V AC/DC ± %10 |
| Power consumption | Max. 5VA |
| Connection | 2.5mm ² screw-terminal connections |
| Scale | -60.0 ... +150.0°C (-76.0 ... +302.0°F) |
| Sensitivity | 0.1°C (Can be selected as 0.1°C or 1°C.) |
| Accuracy | ±1°C |
| Time accuracy | ±1% |
| Display | 4 digits, 12.5mm, 7 segment LED (V2 Code : Blue Display) |
| EMC | EN 61326-1: 2012 |
| Safety requirements | EN 61010-1: 2010 (Pollution degree 2, overvoltage category II) |

OUTPUTS

| | |
|---------------------------|--|
| Relay output | For EDT2411-X-R ; Relay: NO+NC 250V AC,8A (resistive load), 1/2HP, 0.37KW 240V AC (inductive load) For EDT2411-X-P ; Relay: NO 277V AC,20A (resistive load), 1/2HP, 0.37KW 250V AC (inductive load) For EDT2411-X-R ; Without load 30.000.000 mechanical; 250V AC, 8A resistive load 100.000 electrical operation. |
| Life expectancy for relay | For EDT2411-X-P ; Without load 10.000.000 switching; 277V AC,20A (for resistive load) 100.000 electrical operation. |

CONTROL

| | |
|-------------------|----------------------------------|
| Control type | Single set-point control |
| Control algorithm | On-Off control |
| Hysteresis | Adjustable between 1 ... 20.0°C. |

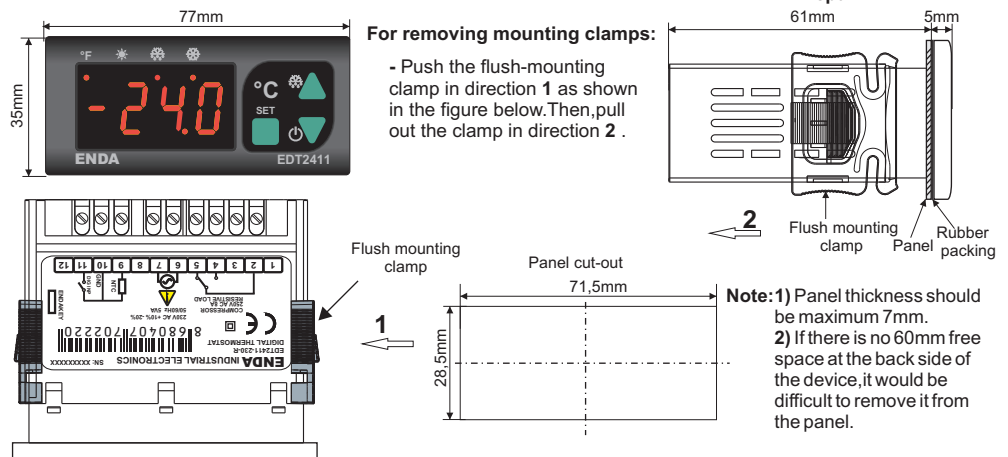
HOUSING

| | |
|--------------------|------------------------------------|
| Housing type | Suitable for flush -panel mounting |
| Dimensions | W77xH35xD61mm |
| Weight | Approx. 190g (After packing) |
| Enclosure material | Self extinguishing plastics. |



While cleaning the device, solvents (thinner, benzene, acid etc.) or corrosive materials must not be used.

DIMENSIONS



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EDT2411-E-05-150409



- °F FAHRENHEIT LED: In parameter value or the measured temperature value "°F" unit while this LED lights up. In the hidden menu at the same time the user menu parameter is shown the LED lights up.
 - ☀ HEATING LED: Heating is being checked; while the output is active, the LED lights.
 - ❄ DEFROST LED: With the defrost lights up.
 - ❄ COMPRESSOR LED: If compressor output is active, this LED lights up. While these compressor delays expected, this LED flashes.
- SET While in the operating mode set value, while in the programming mode shows selected parameter's value.
 - ▲ While in programming mode, provides the transition to the next parameter. If parameter is being adjusted, it increases parameter's value. Constantly holding this key, the parameter value rapidly increases.
 - ▼ While in programming mode, provides the transition to the previous parameter. If parameter is being adjusted, it decreases parameter's value. Constantly holding this key, the parameter value rapidly decreases.

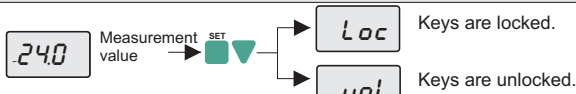
FRONT PANEL COMMANDS

1. Viewing and Changing The Set Value



While in the running mode, if SET key is pressed set value is displayed for 3 seconds. While in this case, the set value is changed with ▲▼ keys.

2. Locking and Unlocking Keys

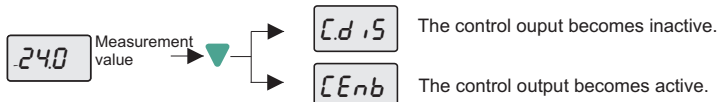


While in the operating mode, if SET ▼ keys are pressed together among 2 seconds the Loc message is displayed and the keys are locked. If the keys are locked SET ▼ keys are pressed for 2 seconds again unL message is displayed and key lock is opened and is returned to the normal way of working. While keys are locked, if SET key is pressed, the set value can be displayed but the value can not be changed. While the keys are locked, SET key outside if a key is pressed the Loc message is seen.

3. Manual Defrost Process

While in the operating mode, if ▲ key is pressed for 2 seconds the defrost process is started as manual. If $d.dur = 0$, the manual defrost will also be disabled.

4. Activating / Inactivating The Control Outputs



* When in the running mode, if the control outputs are inactive, OFF message displays periodically.

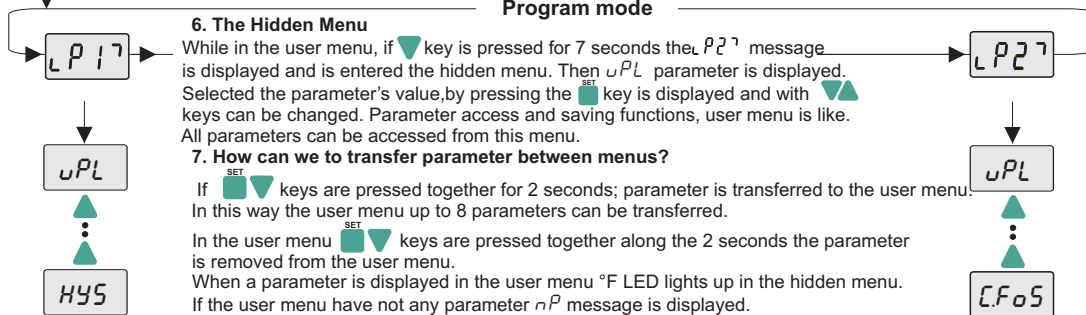
When in the running mode, if ▼ key is pressed for 2 seconds, C.d.s message is displayed and control outputs becomes to the inactive position, the device works as the indicator. When the control outputs are disabled; if ▼ key is pressed for 2 seconds C.Enb is disabled and the device continues to do control function.

5. Changing Parameter Values

▲ Keys are pressed together for 2 seconds L.P.1 is displayed and the user menu is entered, afterwards first parameter's name is displayed in the user menu.

While a parameter was selected, by pressing to SET key parameter's value is displayed, the displayed this parameter can be changed with ▲▼ keys. When the parameter name is shown, no action is done after 3 seconds or to the SET key is pressing again to return to the parameter's name. When the parameter name is shown, ▲▼ keys are pressed together immediately without waiting to get out of this process.

Program mode



6. The Hidden Menu
While in the user menu, if ▼ key is pressed for 7 seconds the L.P.2 message is displayed and is entered the hidden menu. Then u.P.L parameter is displayed. Selected the parameter's value, by pressing the SET key is displayed and with ▲▼ keys can be changed. Parameter access and saving functions, user menu is like. All parameters can be accessed from this menu.

7. How can we to transfer parameter between menus?

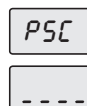
If SET ▼ keys are pressed together for 2 seconds; parameter is transferred to the user menu. In this way the user menu up to 8 parameters can be transferred.
In the user menu SET ▼ keys are pressed together along the 2 seconds the parameter is removed from the user menu.
When a parameter is displayed in the user menu °F LED lights up in the hidden menu.
If the user menu have not any parameter n.P message is displayed.

ERROR MESSAGES



P.F.R. Means, thermostat probe is broken.

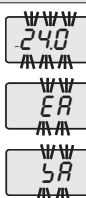
---- Temperature value is higher than the scale.



P.S.C. Means, thermostat probe is short circuit.

---- Temperature value is lower than the scale.

ALARM SITUATION

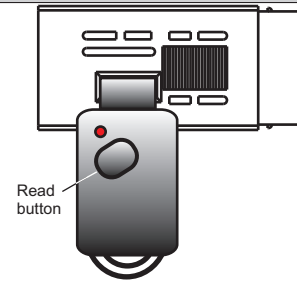
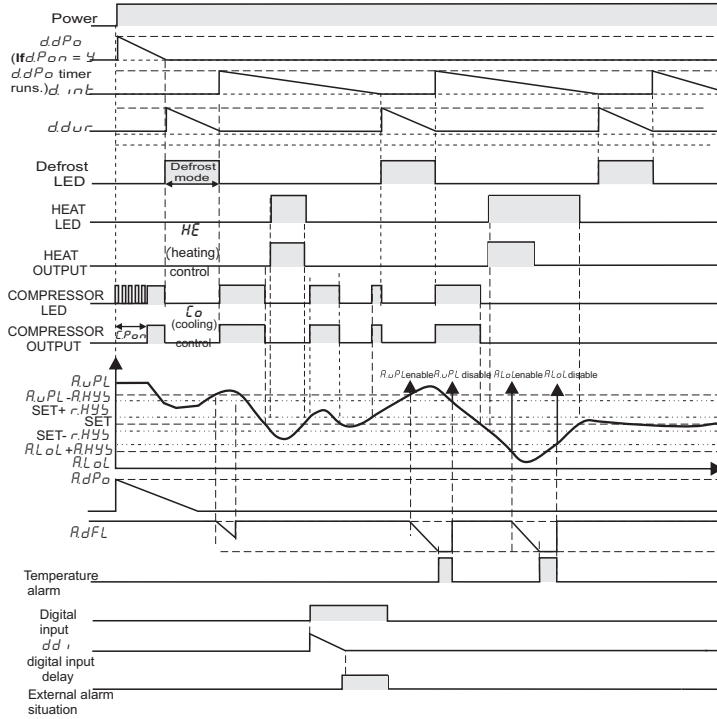


1. When the alarm situation occurred, the measured value flashes in the indicator and if "Snd" parameter is not "0" is given audible alarm by the device. While there are a audible warning; ▲ key is pressed, the audible warning will be disabled.
2. External alarm is activated but output's is not affected by this situation.
3. Except that the alarm has been activated and external alarm output relay is active when the show shut down. (off situation).
4. Buzzer voice warning is given; if any key is pressed the buzzer will be silenced.

HOW CAN WE RETURN THE DEVICE TO THE FACTORY SETTINGS

▼ Key is held down while the device is powered up the d.P.A.R message will see and restore the factory parameters.

OUTPUT GRAPHICS



How Can We Download The Parameters From ENDAKEY To The Device?

While in the running mode; if ∇ key or "Read" button (in ENDAKEY) are pressed; is displayed "dL" message and parameters are read in ENDAKEY. "dL" message appears when the ∇ key is pressed again, reading parameter values from the ENDAKEY are transferred to the device. If the parameter transfer is successful, "rEF" message is displayed and the device begins to work with downloaded parameters value. The parameter in the ENDAKEY, while belonging to a different device or if there is a malfunction in the ENDAKEY "Errr" message is displayed and the parameters of the device unchanged.

How Can We Upload The Parameters From Device To The ENDAKEY?

While in the running mode; if \blacktriangle key is pressed "uL" message is displayed and again \blacktriangle key is pressed; if there is no error, the parameters in the device are loaded in to the ENDAKEY and "suc" message is displayed. If there is a malfunction in the device and the installation failed "Errr" message is displayed.

NOTE 1: To the device without energy, the parameter transfer is done with ENDAKEY.

The battery inside the ENDAKEY for a longer period of time; after the parameter transfer process, the connection between the ENDAKEY and the device should be disconnected.

NOTE 2: ENDAKEY device is supplied with orders if requested.

CONTROL PARAMETERS

| | | MIN. | MAX. | UNIT | DEF. SET |
|-------|---|------|-------|-------------|----------|
| uPL | The upper limit of the setpoint | -600 | uPL | $^{\circ}C$ | 150 |
| LoL | The lower limit of the setpoint | 1500 | LoL | $^{\circ}C$ | -60 |
| HYS | Switch hysteresis for compressor (hysteresis) | 0.1 | 200 | $^{\circ}C$ | 2 |
| oFF | The offset value for the refrigeration | -200 | 200 | $^{\circ}C$ | 0 |

CONFIGURATION PARAMETERS

| | | | | | |
|---------|---|-------------|-------------|--|-------------|
| $CLYP$ | Control type selection ($HE=*$) heating control is selected, Co = Cooling control is selected.) $CLYP$ parameter as HE is selected, the defrost function of the device is disabled. | Co | HE | | Co |
| $Un it$ | Temperature unit | $^{\circ}C$ | $^{\circ}F$ | | $^{\circ}C$ |
| $dPnt$ | Decimal point (no = decimal point isn't shown $22^{\circ}C$, YES =decimal point is shown $22.3^{\circ}C$.) | no | YES | | no |
| Snd | Type of buzzer sound (6 different voice types can be selected. Alarm during 0 is chosen, the voice warning is canceled.) For Relay-8A is valid. | 0 | 6 | | 0 |
| $d inP$ | Digital input types. nd : Digital input unused. ER : External alarm. ER message flashes in the display. Output unchanged. SR : Important external alarm. SR message flashes in the display. Relay output is turned off. HC : Control type. $CLYP$ parameter is changed. (If $HE = Co$, if $Co = HE$) dF : Defrost operation is started. | nd | dF | | nd |
| $dd i$ | Digital input delay. The period of the digital inputs to be active. | 0:00 | 99:00 | | 0:00 |
| dPo | Digital input polarity. CL = While a digital input contact is closed, it is activated. oP = While a digital input is opened, it is activated. | CL | oP | | CL |

COMPRESSOR PROTECTION PARAMETERS

| | | | | | |
|--------|---|------|-------|---------|------|
| $CPon$ | Delay time for the compressor after power is on. | 0:00 | 99:00 | min:sec | 1:00 |
| $CFoS$ | Delay time required for the compressor to restart following a stop. | 0:00 | 99:00 | min:sec | 1:00 |
| $CPPn$ | On time for the compressor output in the case of probe failure. | 0:00 | 99:00 | min:sec | 0:00 |
| $CPPF$ | Off time for the compressor output in the case of probe failure | 0:00 | 99:00 | min:sec | 1:00 |

DEFROST CONTROL PARAMETERS

| | | | | | |
|---------|--|------|-------|---------|------|
| $ddur$ | Defrost duration (If $ddur=0$, automatic and manual defrost are disabled.) | 0:00 | 99:00 | min:sec | 1:00 |
| $d int$ | The time between 2 consecutive defrosts. | 1:00 | 99:00 | hr:min | 1:00 |
| $ddSP$ | During defrost, display configuration (rE = Real temperature is displayed during defrost. (Lc = The temperature which is measured before defrost is displayed during defrost. | Lc | rE | | Lc |
| $ddrE$ | Delay time for display real temperature after defrost is over. | 0:00 | 99:00 | min:sec | 1:00 |
| $dPon$ | Defrosting process begins with energy (no =Defrost process doesn't start when, the energy comes. YES =Defrost process starts when the energy comes.) | no | YES | | no |
| $ddPo$ | Delay time for defrosting after power is on. | 0:00 | 99:00 | min:sec | 1:00 |

ALARM CONTROL PARAMETERS

| | | | | | |
|--------|---|--------|--------|-------------|-------|
| $RuPL$ | Limit for upper alarm level. When $RtYP$ is changed, $RuPL$ should be readjusted. | $RLoL$ | 1500 | $^{\circ}C$ | 150 |
| $RLoL$ | Limit for lower alarm level. When $RtYP$ is changed, $RLoL$ should be readjusted. | -600 | $RuPL$ | $^{\circ}C$ | -60 |
| $RHYS$ | Switch hysteresis for alarm. | 0.1 | 200 | $^{\circ}C$ | 2 |
| $RtYP$ | Alarm configuration. (RbS =Absolute alarm. Alarm values are $RLoL$ and $RuPL$.) (rEF = Relative alarm. Alarm values are $SET-RLoL$ and $SET+RuPL$.) NOTE: Upper and Lower alarm level variables are determined according to the "RtYP" parameter. If $RtYP = RbS$, $RLoL$ and $RuPL$. If $RtYP = rEF$, $LcL = SET-RLoL$ and $RuPL$. | RbS | rEF | | RbS |
| $RdFL$ | Time delay to display alarm message after alarm is on. | 0:00 | 99:00 | min:sec | 0:00 |
| $RdPo$ | Time delay to display alarm message after power is on. | 0:00 | 24:00 | hr:min | 0:10 |
| $RdrS$ | RS485 Network address for the connection of the device. Adjustable between 1-247. | | | | 1 |
| $bRud$ | Baudrate (0=Off; 1=1200; 2=2400; 3=4800; 4=9600; 5=19200) | | | | 9600 |
| cSr | The holding parameter of control outputs state when the supply is powered off. | no | YES | | YES |
| tSr | The holding parameter of keypad lock state when the supply is powered off. | no | YES | | no |

ENDA EDT2411 DIGITAL THERMOSTAT MODBUS PROTOCOL ADDRESS MAP

1.1 HOLDING REGISTERS

| Holding Register Addresses | | Data Type | Data Content | Parameter Name | Read/Write Permission | Status Value |
|----------------------------|--------|-----------|---|----------------|-----------------------|--------------|
| Decimal | Hex | | | | | |
| 0000d | 0x0000 | word | Set value | -- | Readable/Writeable | -20 |
| 0001d | 0x0001 | word | Set point upper limit | uPL | Readable/Writeable | 150 |
| 0002d | 0x0002 | word | Upper level alarm | RuPL | Readable/Writeable | 150 |
| 0003d | 0x0003 | word | Set point lower limit | LoL | Readable/Writeable | -60 |
| 0004d | 0x0004 | word | Lower level alarm | RLoL | Readable/Writeable | -60 |
| 0005d | 0x0005 | word | The offset value for the cooling | oFF | Readable/Writeable | 0 |
| 0006d | 0x0006 | word | Cooling hysteresis | HYS | Readable/Writeable | 2 |
| 0007d | 0x0007 | word | Switch hysteresis for alarm | RHYS | Readable/Writeable | 2 |
| 0008d | 0x0008 | word | Type of buzzer sound | Snd | Readable/Writeable | 0 |
| 0009d | 0x0009 | word | Digital input types .0=nd;1=ER;2=BR;3=HC;4=dF | d.inP | Readable/Writeable | nd |
| 0010d | 0x000A | word | Digital input delay | ddi | Readable/Writeable | 0:00(0 sec) |
| 0011d | 0x000B | word | Delay time for the compressor after power is on. | CPon | Readable/Writeable | 1:00(60 sec) |
| 0012d | 0x000C | word | Delay time required for the compressor to restart following a stop. | CFoS | Readable/Writeable | 0:00(0 sec) |
| 0013d | 0x000D | word | On time for the compressor output in the case of probe failure | CPPn | Readable/Writeable | 0:00(0 sec) |
| 0014d | 0x000E | word | Off time for the compressor output in the case of probe failure | PPF | Readable/Writeable | 1:00(60 sec) |
| 0015d | 0x000F | word | Defrost duration | ddur | Readable/Writeable | 1:00(60 sec) |
| 0016d | 0x0010 | word | The time between 2 consecutive defrosts. | d.int | Readable/Writeable | 1:00(60 min) |
| 0017d | 0x0011 | word | Delay time for defrosting after power is on. | ddPo | Readable/Writeable | 1:00(60 sec) |
| 0018d | 0x0012 | word | After the cooling process of cooling start-up delay | ddrE | Readable/Writeable | 1:00(60 sec) |
| 0019d | 0x0013 | word | Time delay to display alarm message after alarm is on. | RdFL | Readable/Writeable | 0:00(0 sec) |
| 0020d | 0x0014 | word | Time delay to display alarm message after power is on. | RdPo | Readable/Writeable | 0:10(10 min) |

RTC REAL TIME CLOCK PARAMETERS

| | | | | | | |
|-------|--------|------|---|------|--------------------|---------------|
| 0021d | 0x0015 | word | The device time setting | hour | Readable/Writeable | 0 |
| 0022d | 0x0016 | word | The device minute setting | min | Readable/Writeable | 0 |
| 0023d | 0x0017 | word | The device day setting (Sun,Mon,Tue,Wed,Thu,Fri,Sat) | day | Readable/Writeable | 0(Sun) |
| 0024d | 0x0018 | word | The first day of the week holiday (Sun,Mon,Wed,Thu,Fri,Sat,Su) | ht1 | Readable/Writeable | 7(nu) |
| 0025d | 0x0019 | word | The second day of the week holiday (Sun,Mon,Wed,Thu,Fri,Sat,Su) | ht2 | Readable/Writeable | 7(nu) |
| 0026d | 0x001A | word | Defrost start time of the 1. workday | id1 | Readable/Writeable | 24:00(hr:min) |
| 0027d | 0x001B | word | Defrost start time of the 2 workday | id2 | Readable/Writeable | 24:00(hr:min) |
| 0028d | 0x001C | word | Defrost start time of the 3. workday | id3 | Readable/Writeable | 24:00(hr:min) |
| 0029d | 0x001D | word | Defrost start time of the 4. workday | id4 | Readable/Writeable | 24:00(hr:min) |
| 0030d | 0x001E | word | Defrost start time of the 5. workday | id5 | Readable/Writeable | 24:00(hr:min) |
| 0031d | 0x001F | word | Defrost start time of the 6. workday | id6 | Readable/Writeable | 24:00(hr:min) |
| 0032d | 0x0020 | word | Defrost start time of the 1. holiday | td1 | Readable/Writeable | 24:00(hr:min) |
| 0033d | 0x0021 | word | Defrost start time of the 2. holiday | td2 | Readable/Writeable | 24:00(hr:min) |
| 0034d | 0x0022 | word | Defrost start time of the 3.holiday | td3 | Readable/Writeable | 24:00(hr:min) |
| 0035d | 0x0023 | word | Defrost start time of the 4. holiday | td4 | Readable/Writeable | 24:00(hr:min) |
| 0036d | 0x0024 | word | Defrost start time of the 5. holiday | td5 | Readable/Writeable | 24:00(hr:min) |
| 0037d | 0x0025 | word | Defrost start time of the 6.holiday | td6 | Readable/Writeable | 24:00(hr:min) |
| 0038d | 0x0026 | word | Energy-saving value of the difference set | Rdd | Readable/Writeable | 0 |
| 0039d | 0x0027 | word | Energy-saving start time of the workday | iet | Readable/Writeable | 24:00(hr:min) |
| 0040d | 0x0028 | word | Workday energy-saving time | iES | Readable/Writeable | 00:00 |
| 0041d | 0x0029 | word | Energy-saving start time of the holiday | teet | Readable/Writeable | 24:00(hr:min) |
| 0042d | 0x002A | word | Holiday energy-saving time | teES | Readable/Writeable | 00:00 |
| 0043d | 0x002B | word | RS485 Network address for the connection of the device. Adjustable between 1-247. | Rdr5 | Readable/Writeable | 1 |
| 0044d | 0x002C | word | Baudrate (0=Off; 1=1200; 2=2400; 3=4800; 4=9600; 5=19200) | bRud | Readable/Writeable | 9600 |

* Holding Register parameter of type integer, those "signed integer" is defined as the decimal part of and associated with these parameters. (So, "14.0" is a parameter value of "140" will be read in.) Relevant parameters for a period of "mm:ss" type ones in seconds, "hh:mm" while those species defined in minutes.

* Devices without **RTC**; 0021d and 0022d parameters, the **RTC** in 0043d and 0044d addresses correspond to the devices.

1.2 INPUT REGISTERS

| Input Register Addresses | | Data Type | Data Content | Parameter Name | Read/Write Permission |
|--------------------------|--------|-----------|--|----------------|-----------------------|
| Decimal | Hex | | | | |
| 0000d | 0x0000 | word | Measured temperature value (°C / °F) | -- | Only readable |
| 0001d | 0x0001 | word | Defrost time(sn). During the defrost mode to defrost for the normal, for the remaining period of the termination of the defrost process. If the defrost is finished, the remaining time for the start of the next defrost. | -- | Only readable |

* Input Register parameter value of the temperature reading, is defined as a signed integer. This value is associated with a portion. (So, "23,5°C" value of temperature "235" will be read in.)

1.3 DISCRETE INPUTS

| Discrete Input Addresses | | Data Type | Data Content | Parameter Name | Read/Write Permission |
|--------------------------|------|-----------|--|----------------|-----------------------|
| Decimal | Hex | | | | |
| 0000d | 0x00 | Bit | Control output situation (0=OFF; 1=ON) | -- | Only readable |

1.4 COILS

| Coil Addresses | | Data Type | Data Content | Parameter Name | Read/Write Permission | Status Value |
|----------------|------|-----------|--|----------------|-----------------------|--------------|
| Decimal | Hex | | | | | |
| 00d | 0x00 | Bit | Control type selection. OFF=Cooling control (Lc) ON=Heating control (HE) | LtYP | Readable/Writeable | Lc |
| 01d | 0x01 | Bit | Temperature unit. OFF=°C ON=°F | Unit | Readable/Writeable | °C |
| 02d | 0x02 | Bit | Decimal point . OFF=no ON=YES | dPnt | Readable/Writeable | no |
| 03d | 0x03 | Bit | Digital input polarity. OFF=While a digital input contact is closed, it is activated. (cL) ON=While a digital input is opened, it is activated (oP) | dPo | Readable/Writeable | cL |
| 04d | 0x04 | Bit | During defrost, display configuration. OFF=The temperature which is measured before defrost is displayed. (Lc) ON=Real temperature is displayed during defrost process. (rE) | ddSP | Readable/Writeable | Lc |
| 05d | 0x05 | Bit | Defrosting process begins with energy. OFF=Defrost process doesn't start when the energy comes. (no) ON=Defrost process starts when the energy comes. (YES) | dPon | Readable/Writeable | no |
| 06d | 0x06 | Bit | Alarm configuration .OFF=Absolute alarm (AbS) ON=Relative alarm (rEF) | AltYP | Readable/Writeable | AbS |
| 07d | 0x07 | Bit | Defrost type (OFF=The normal operation of the defrost. (nor) ON=Defrost operation with RTC (rEe)) | dLYP | Readable/Writeable | nor |
| 08d | 0x08 | Bit | Control situation. OFF=Control passive. (Ld iS) ON=Control active (L.E nb) | -- | Readable/Writeable | LEnb |

*"07d" address parameter, only the RTC and the RTC are not located in the devices and the device have a total of 7 parameter ""08d" with address parameter 7. the order.

ENDA EDT2411 DIGITAL THERMOSTAT RTC PARAMETERS

RTC SET PARAMETERS

| | | Min. | Max. | Unit | Status |
|-------------|--|------------|------------|--------|------------|
| <i>hour</i> | The device time setting | 0 | 23 | hour | 0 |
| <i>min</i> | The device minute setting | 0 | 59 | minute | 0 |
| <i>day</i> | The device day setting <i>Sun,non,tuE,UEd,thu,Fr i,SAE</i> | <i>Sun</i> | <i>SAE</i> | day | <i>Sun</i> |
| <i>ht 1</i> | The first day of the week holiday. <i>Sun,non,tuE,UEd,thu,Fr i,SAE,nu</i> . (If <i>nu</i> is chosen, holidays are not selected and it is perceived as working days.) | <i>Sun</i> | <i>nu</i> | day | <i>nu</i> |
| <i>ht 2</i> | The second day of the week holiday. (<i>Sun,non,tuE,UEd,thu,Fr i,SAE,nu</i>). (If <i>nu</i> is chosen, holidays are not selected and it is perceived as working days.) | <i>Sun</i> | <i>nu</i> | day | <i>nu</i> |

DEFROST CONTROL PARAMETERS

| | | | | | |
|----------------------------|--|--------------|--------------|--------|--------------|
| <i>dtyp</i> | The device defrost type. (<i>nor</i> :with interval times defrost, <i>rtc</i> :with real time clock defrost) | <i>nor</i> | <i>rtc</i> | - | <i>nor</i> |
| <i>id 1</i> <i>id 6</i> | <i>id 1, id 2, id 3, id 4, id 5, id 6</i> Defrost status time in the range of <i>id 1- id 6</i> workdays. (If this status time= <i>24:00</i> ,defrost process is not performed.) | <i>00:00</i> | <i>24:00</i> | hr:min | <i>24:00</i> |
| <i>td 1</i> <i>td 6</i> | <i>td 1,td 2,td 3,td 4,td 5,td 6</i> . Defrost status time in the range of <i>td 1-td 6</i> holidays. (If this status time= <i>24:00</i> defrost process is not performed.) | <i>00:00</i> | <i>24:00</i> | hr:min | <i>24:00</i> |

ENERGY-SAVING PARAMETERS

| | | | | | |
|-------------|--|--------------|--------------|--------|--------------|
| <i>Add</i> | Energy-saving value of the difference set (During the energy-saving SET=SET+ <i>Add</i> . Energy-saving during, the set value does not change. | <i>-20</i> | <i>20</i> | °C/°F | 0 |
| <i>iet</i> | Energy-saving start time of the workday. (If this status time= <i>24:00</i> energy-saving will not be made.) | <i>00:00</i> | <i>24:00</i> | hr:min | <i>24:00</i> |
| <i>ies</i> | Workday energy-saving time(If this status time= <i>00:00</i> energy-saving will not be made.) | <i>00:00</i> | <i>24:00</i> | hr:min | <i>24:00</i> |
| <i>teet</i> | Energy-saving start time of the holiday. (If this status time <i>24:00</i> energy-saving will not be made.) | <i>00:00</i> | <i>24:00</i> | hr:min | <i>24:00</i> |
| <i>tees</i> | Holiday energy-saving time (If this status time: <i>00:00</i> energy-saving will not be made.) | <i>00:00</i> | <i>24:00</i> | hr:min | <i>24:00</i> |

REAL TIME CLOCK FEATURE

At first power up of the device; hour, minute, day must be adjusted. In addition, an optional holiday in each week can be assigned to the desired days. All the days of the week "workday" is entered as requested, *ht 1* and *ht 2* parameters should be chosen as "nu". This sets the device is powered down, even after the 2500 real time clock continuous to run throughout the day. With this feature, defrost control and energy-saving can be requested.