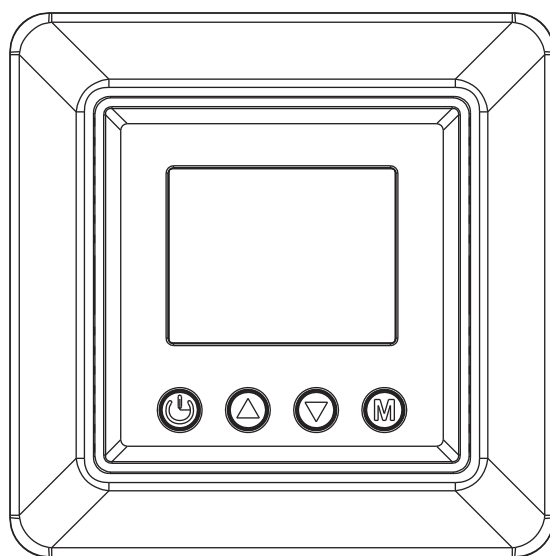
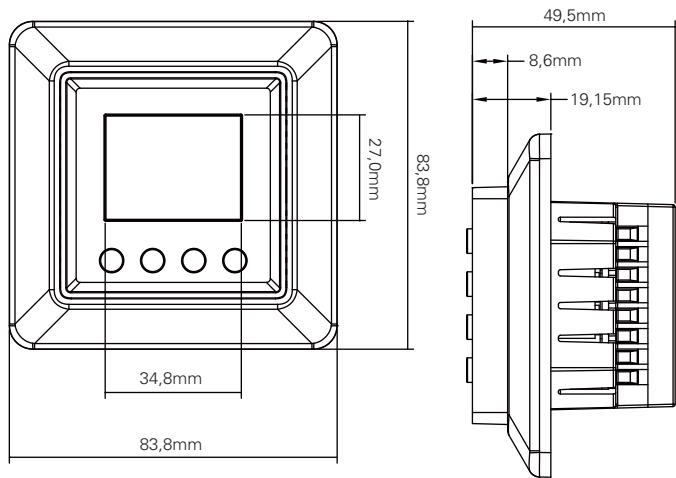


NAMRON Z-WAVE THERMOSTAT



NAMRON Z-WAVE THERMOSTAT

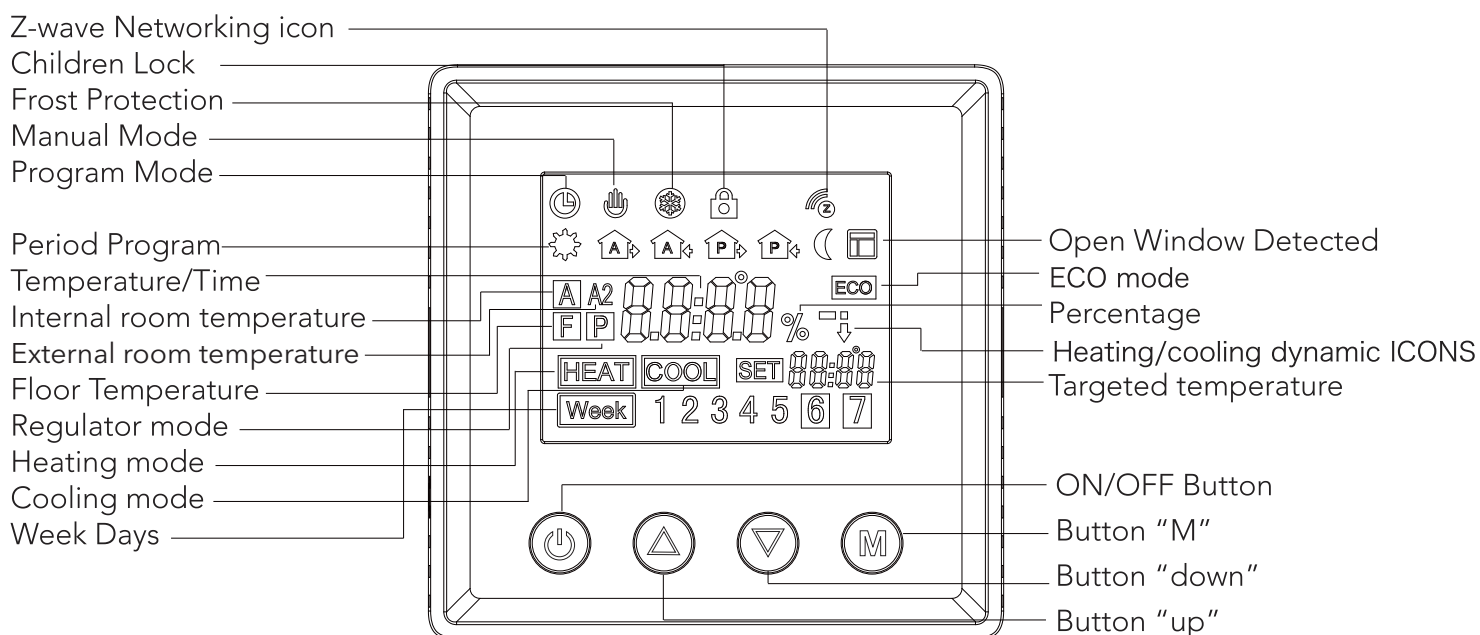


Technical Data

Input	230VAC+/-10%, 50/60Hz
Max. Pre-fuse	16A
Built-in Switch	1 Pole, 16A
Relay contact	Max 16A 250VAC
Output relay	16A, SPST-NO
Floor sensor type :	The thermostat can be configured as any of the following floor sensor: 3m, NTC, R25=10K Ω $\pm$ 1%@25°C, B25/50=3950K $\pm$ 1%(default) 3m, NTC, R25=12K Ω $\pm$ 2%@25°C, B25/85=3740K $\pm$ 2%(support) 3m, NTC, R25=15K Ω $\pm$ 2%@25°C, B25/85=3740K $\pm$ 2%(support) 3m, NTC, R25=22K Ω $\pm$ 2%@25°C, B25/85=3740K $\pm$ 2%(support) 3m, NTC, R25=33K Ω $\pm$ 2%@25°C, B25/85=4090K $\pm$ 1.5%(support) 3m, NTC, R25=47K Ω $\pm$ 2%@25°C, B25/85=4090K $\pm$ 1.5%(support)
External room sensor:	The thermostat can be configured as any of the following external room sensors: 3m, NTC, R25=10K Ω $\pm$ 1%@25°C, B25/50=3950K $\pm$ 1%(default) 3m, NTC, R25=12K Ω $\pm$ 2%@25°C, B25/85=3740K $\pm$ 2%(support) 3m, NTC, R25=15K Ω $\pm$ 2%@25°C, B25/85=3740K $\pm$ 2%(support) 3m, NTC, R25=22K Ω $\pm$ 2%@25°C, B25/85=3740K $\pm$ 2%(support) 3m, NTC, R25=33K Ω $\pm$ 2%@25°C, B25/85=4090K $\pm$ 1.5%(support) 3m, NTC, R25=47K Ω $\pm$ 2%@25°C, B25/85=4090K $\pm$ 1.5%(support)
Build-In sensor	NTC, R25=10K Ω $\pm$ 1%@25°C, B25/50=3950K $\pm$ 1%
Network function:	Z-wave: Meet the wireless protocol standard of Z-Wave protocol. Frequency: 868.42MHz(EU) standard configuration
Wiring Requirements	Current $\leq$ 13A-1.5mm ² , solid core wire, H07V-R wire Current > 13A to 16A-2.5mm ² , solid core wire, H07V-R wire
Control object	Floor Heating
Method of mounting	Wall mounted

Control function	The thermostat has a build-in sensor and supplied with an floor sensor. Also the thermostat can be connected with an external room sensor. The thermostat can be set for the following functions: ■ Room temperature control ■ Floor temperature control ■ External room temperature control ■ Floor sensor as an external limit sensor for internal room temperature control ■ Floor sensor as an external limit sensor for external room temperature control Maximum and minimum limitation temperatures can be set
Control mode	①Manual Mode ②Weekly Program mode ③Regulator
Frost Protection	Default 5° C to start frost protection,5~10° C controllable. Can be switched on/off manually
Ambient temperature	-10°C/+60°C
External limitation	5~60°C (Default 27°C)
Switch deviation	0.5~10°C adjustable (±1°C)
Protection level	IP20
Material of casing	PC Fire-rated

Symbol overview



Installation

The thermostat is applied to full load in areas with the altitude of less than 2500m above sea level. Power rating of external load should be less than or equal to 80% rated power of the thermostat in areas with altitude of 2500m to 4200m.

WARNING

- Installation must be carried by a qualified electrician.
- Before installation, please check whether it conforms to local electric standards.
- Power supply must be turn off when install and clean the thermostat.

Wipe the surface dust or dirt with soft cloth or tissue, do not use the detergent or other corrosive chemical solution.

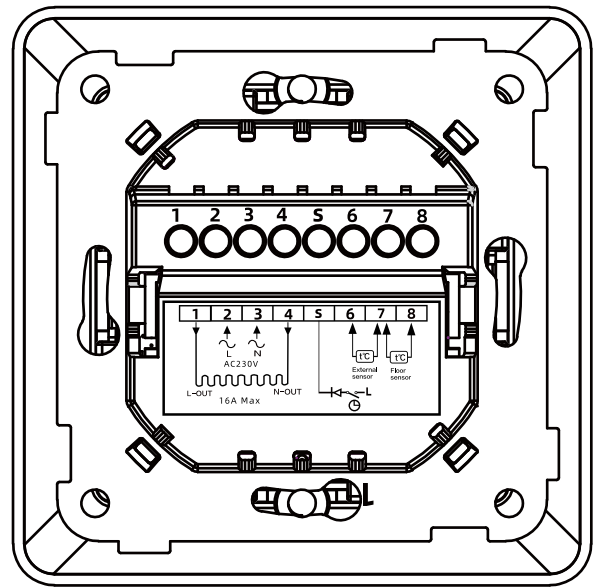
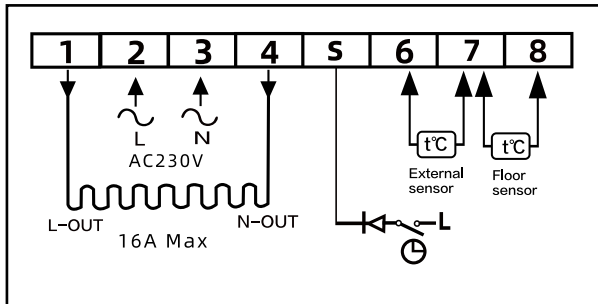
Please match with the 86 type standard wall outlet to ensure the Normal installation operation.

Do not connect the L&N, LO&NO reversely.

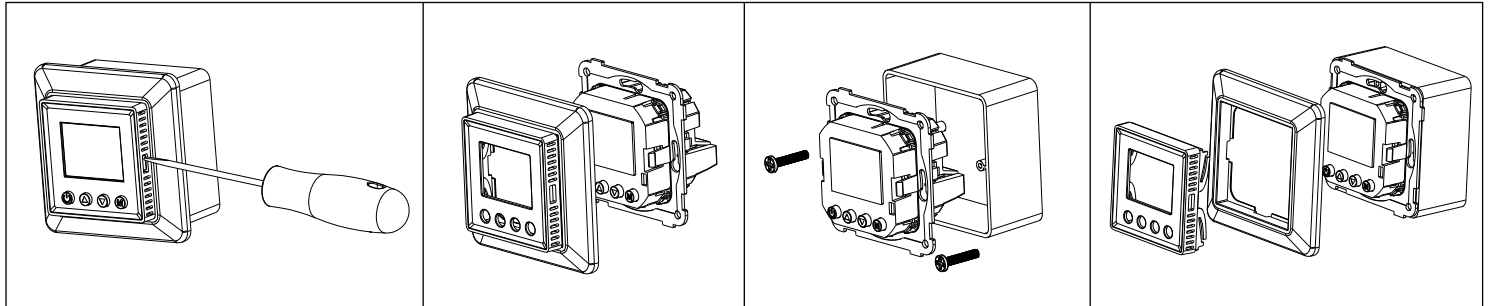
Please place and protect the cover properly when it's in installation to avoid the damage.

When connected to AC230V, the surface cover must be installed. Thermostat is not the SELV product, all the voltage part should be regarded as 230V.

Wiring Diagram



Mounting



Operation

Time setting

When you connecting the thermostat for the first time, you must set the year, day, month, hours and minutes before other settings.

1. To set the Year:

Press and hold button “M” and “▲” 3 seconds at the same time to enter the “Year” setting mode, short press “▲” or “▼” to adjust the “Year” value.

After settled then press “M” to enter the “Day” setting.

2. To set the Day:

During the “Day” setting short press “▲” or “▼” to choose the “Day”

After settled then press “M” to enter the “Month” setting.

3. To set the Month:

During the “Month” setting short press “▲” or “▼” to choose the “Month”

After settled then press “M” to enter the “Time” setting

4. To set the Time (Hour):

During the “Time” setting short press “▲” or “▼” to choose the “Hour” .

After settled then press “M” to enter the “Minute” setting.

5. To set the Minute:

During the “Minute” setting short press “▲” or “▼” to choose the “Minute”

After settled then press “M” to back to the main display and the time setting has been completed.

Weekly Programmed setting

1. To start setting the weekly programmed schedule, go advanced setting and confirm the weekday setting schedule first, The schedule has four mode: 5-2 6-1 7-0 0-7
 2. After confirm the schedule back to the menu and press and hold “▲” and “▼” 3s for weekly setting.
- 2.1. Please note only in non-regulator mode the thermostat can be enter weekly programmed mode.
- 2.2. The thermostat will be run as default weekly programmed schedule below when user is not plan to set the schedule.

Time period		Time symbol	Time		Temperature	
			default	adjust	default	adjust
Workingday	1		06:00	▲ or ▼ adjust time and time period	21°C	▲ or ▼ adjust the temperature
	2		08:00		17°C	
	3		11:30		17°C	
	4		13:30		17°C	
	5		17:00		21°C	
	6		22:00		17°C	
Non-Workingday	1		06:00		21°C	
	2		22:00		17°C	

Normal operation guidance

1. Short press the ON/OFF key to ON/OFF the backlight on the thermostat display. When it shows **boN**, means that backlight is ON, shows **boFF**, means OFF.
2. Long press the ON/OFF button 3s to ON/OFF the Thermostat
3. Under manual control or programmed control mode, short press button “M” to have mode change.
4. During the heating(not in regulator P mode), long press” M” 2s to switch **Co** to **ECo** mode.
5. During the normal mode(Not P mode), short press” ▲” or” ▼” to adjust the current temperature.
6. During the Programmed mode, short press” ▲” or” ▼” to adjust the contemporary time setting temperature which enter the temporary control mode.
7. In regulator P mode, short press “▲” or “▼” to adjust the heating percentage of the current mode, short press “M” to confirm the setting.
8. Under main screen at any mode press hold the “M” and “▲” 3s at same time to enter the date/time setting.
9. Under main screen at any mode press hold the “M” and “▼” 3s at same time to open/close child lock.

Regulator setting

1. Enter the Advanced setting and find Sensor mode **Snod** press M
2. Find P and long press button M until see OK confirm the regulator heating mode
3. To choose the heating time period go to advance setting
4. Find Regulator **EEt** and press M to enter the time setting. Long press M to confirm.
5. Back to Home page use ▲ and ▼ to select heating percentage

Advanced setting;

Long press button “M” for 5seconds at any control mode

Code Shown		Meaning of code	Short press “▲” or “▼” to select, long press “M” for 1 second to confirm, short press “M” to exit	Code Shown	Meaning of code	Short press “▲” or “▼” to select, long press “M” for 1 second to confirm, short press “M” to exit
1	CAr	Air Temperature calibration	Check the Air temperature and calibration: -10~10 °C (factory setting 0 °C)	13	AdAP	Self-Adjust Off: Self adaption function off On: Self adaption function on (factory default OFF)
2	CAF	Floor Temperature calibration	Check the floor temperature and calibration: -10~10 °C (factory setting 0 °C)	14	ALo	Lower limit of air sensor temperature 0.5~38 °C (factory setting 5 °C)
3	CAE	External room temperature calibration	Measure and correct the temperature of the external room: -10~10 °C (factory 0 °C)	15	AHi	upper limit of Air sensor temperature 2.5~40 °C (factory setting 40 °C)
4	SMod	Sensor mode	A :Built-in sensor F :Floor sensor (factory default) AF :Internal temperature control, floor temperature limit A2 :External room sensor A2F :External room temperature control, floor temperature limit P :Controller heating percentage	16	FLo	lower limit of Floor sensor temperature 0.5~38 °C (factory setting 5 °C)
				17	FHi	upper limit of Floor sensor temperature 2.5~40 °C (factory setting 40 °C)
				18	ELo	Lower limit of external room sensor temperature 0.5~38 °C (factory setting 5 °C)
5	SEn	Sensor types	10K 10K: NTC_10K factory default 12K 12K: NTC_12K 15K 15K: NTC_15K 22K 22K: NTC_22K 33K 33K: NTC_33K 47K 47K: NTC_47K	19	EHi	Upper limit of external room sensor temperature 2.5~40 °C (factory setting 40 °C)
				20	nEt	Activate Z-Wave in-network/off-network mode Z-Wave Inclusion: Make sure the device does not belong to any network. Enter advance setting find i n option and long press button M for 2s ready for inclusion,meanwhile set your Z-wave controller in inclusion mode. When the display shows i n ...,means the device is in inclusion status. The display will shows i n as well as Z-wave logo  is on means the inclusion is successful. Err will be showed when inclusion is failed. *For Homey inclusion please double press button “M” then it can be included. Z-Wave exclusion: Enter advance setting, find out option and long press button M for 2s ready for exclusion,meanwhile set your Z-Wave controller in exclusion mode. When the display shows o u ..., means the device is in exclusion status.The display will shows ECL and the Z-Wave logo  is off means the exclusion is successful. Err will be showed when exclusion is failed. *For Homey exclusion please double press button “M” then it can be Excluded.
6	br 1	display backlight brightness in working status	10~100%, 10% increasement, factory reset 100%			
7	br 2	display backlight brightness in standby status	10~100%, 10% increasement, factory reset 10%			
8	FLt	Floor Limited temp.	5-60°C, factory setting 27 °C			
9	d, F	On/Off differential	0.5-10°C, factory setting ±1°C			
10	Pr6	Weekly program setting	Pr6 1 12345/67: 5/2 (Flashing alternately) Pr6 2 123456/7: 6/1(Flashing alternately) Pr6 3 1234567: 7/0 (Flashing)All rest Pr6 4 1234567 flashing: No rest	21	yMod	Operating mode Working mode Cool COOL: Cooling mode HEAT HEAT: Heating mode (factory default)
11	LTp	Frost Protection	oFF Off: Frost protection off(default) When on: 5-10°C	22	dAtE	Date display mode ddmm DDMM: Day day/month month (factory setting) mmdd MMDD: Month month/day day
12	rE6t	Regulator	oFF Off: Turn regulator off 1-30min settable heating schedule time. In total have 30 schedules can be set. (default 30min)	23	ydo	Open window function oFF Disable the open window function on Enable the open window function (Factory Default)
				24	FAC	Factory Reset In the — option, long press "M" 5s to go back to factory reset.
				25	ESC	Exit advanced settings Short press "M" to confirm and exit

Open window function:

During A or AF mode, when build-in sensor has detected that temperature has dropped 5 degree within 10 minutes, then the open window function will activated , in the meantime the heating processing will be stopped. The open window function will be off and back to heating mode when this status has been activated over 30 minutes or build-in sensor has detected that the temperature has increase 3 degree within 10 minutes.

During A2 or A2F mode, when external sensor has detected that temperature has dropped 5 degree within 10 minutes, then the open window function will activated, in the meantime the heating processing will be stopped. The open window function will be off and back to heating mode when this status has been activated over 30 minutes or the external sensor has detected that the temperature has increase 3 degree within 10 minutes.

Under the F mode when the external room sensor (the external room sensor is normal) or the built-in room sensor (external room sensor is not connected or abnormal) drops by more than 5 degrees within 10 minutes, the open window function will be activated and the heating function is disabled.
30 minutes after the open window function activated or the external room sensor is detected (the external room sensor is normal) or the built-in sensor (external room sensor is not connected or abnormal) rises more than 3 degrees within 10 minutes, the open window detection will be canceled and the heating will be resumed.
Under P mode there is no Open window function activated.

Power consumption checking:

Enter the Advanced setting and find category SMOD *Smad* and press M and Upper button *A* over 3 seconds to enter the power consumption checking platform.
Constantly press the button” M” you may check the following value:
Output current *I* (unit value: A)
Output voltage *U* (unit value: V)
Output wattage *P* (unit value: W)
Output total KWH *EWH* (unit value ; KWH)
Please note the every 1kwh the thermostat will save and recording in this device long press M for 5s to reset the data and exit.

Troubleshooting and Additional Information

1. Please choose the proper sensor working. Improper using or sensor defective will stop the thermostat from working when the screen shows ER3 ER4 or ER5 this means Build-in sensor, floor sensor or external room sensor error.
2. When the temperature detected by the temperature sensor is lower than - 10 degrees or higher than 60 degrees, ER3, ER4 or ER5 will also appear accordingly, Indicates that the temperature detected by the built-in room, floor, or external room sensor respectively exceeds the temperature measurement range of the thermostat. When the display shows ER7, it means that the power supply of the thermostat is faulty or the current passing through the relay has exceed over 17.6A and the thermostat stops working until the fault is removed.

Z-Wave Technical Data

1 Security and non-Security features of the Thermostat

The function of the Thermostat as a security and non-security device is identical.
When a node includes into a S0, S2 Z-Wave network, the nodes supports S0, S2 unauthenticated class, S2 authenticated and so do the supported CCs.

1.1 Supported Security Levels

- SECURITY_KEY_S2_AUTHENTICATED_BIT
- SECURITY_KEY_S2_UNAUTHENTICATED_BIT
- SECURITY_KEY_S0_BIT

1.2 Library

Basic Device Class:BASIC_TYPE_ROUTING_SLAVE
Generic Device Class:GENERIC_TYPE_THERMOSTAT
Specific Device Class:SPECIFIC_TYPE_THERMOSTAT_GENERAL_V2

1.3 Commands List

Command Classes Command_Class_BASIC_V2	Version	Required Security Class
COMMAND_CLASS_ZWAVEPLUS_INFO_V2	2	None
COMMAND_CLASS_TRANSPORT_SERVICE_V2	2	None
COMMAND_CLASS_SECURITY_V1	1	None
COMMAND_CLASS_SECURITY_2_V1	1	None
COMMAND_CLASS_SUPERVISION_V1	1	None
COMMAND_CLASS_NOTIFICATION_V8	8	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_BASIC	2	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_CONFIGURATION_V4	4	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_ASSOCIATION_V2	2	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1	3	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_VERSION_V2	3	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2	2	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1	1	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_POWERLEVEL_V1	1	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V5	5	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3	3	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_INDICATOR_V3	3	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_THERMOSTAT_MODE	3	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_THERMOSTAT_OPERATING_STATE	1	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_THERMOSTAT_SETPOINT	3	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_TIME_PARAMETERS	1	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_TIME	2	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_SENSOR_MULTILEVEL_V11	11	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_SWITCH_BINARY	2	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_PROTECTION	2	S0 or S2 Authenticated/Unauthenticated
COMMAND_CLASS_METER_V3	3	S0 or S2 Authenticated/Unauthenticated

2 Special Rule of Each Command

2.1 Z-Wave Plus Info Report Command Class

Z-Wave Plus Version:0x02
Role Type:0x05(ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON)
Node Type:0x00(ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE)
Installer Icon Type:0x1200(ICON_TYPE_GENERIC_THERMOSTAT)
User Icon Type:0x1200(ICON_TYPE_GENERIC_THERMOSTAT)

2.2 Multilevel Sensor Command Class

Supported the sensor type for Temperature.

2.3 Meter Command Class

Supported the meter type for Electric Meter.

Meter Type	Precision	Scale	Size
Electric Meter	0x02	0x00(kWh)	4
Power	0x01	0x00(W)	4
Voltage	0x00	0x00(V)	4
Current	0x02	0x00(A)	4

2.4 Association Command Class

The Thermostat supports 1 association groups and max 5 nodes for each group.

Grouping Identifier	Max Nodes	Send Commands
Group 1	0x05	DEVICE_RESET_LOCALLY_NOTIFICATION SENSOR_MULTILEVEL_REPORT BINARY_SWITCH_REPORT NOTIFICATION_REPORT CONFIGURATION_REPORT THERMOSTAT_MODE_REPORT THERMOSTAT_SETPOINT_REPORT PROTECTION_REPORT METER_REPORT COMMAND_CLASS_INDICATOR

2.5 Notification Command Class

Type	Event	Event Paramter
0x06	NOTIFICATION_EVENT_ACCESS_CONTROL_WINDOW_DOOR_IS_OPEN (0x16) NOTIFICATION_EVENT_ACCESS_CONTROL_WINDOW_DOOR_IS_CLOSED (0x17)	0x00
0x09	NOTIFICATION_EVENT_SYSTEM_HARDWARE_FAILURE_WITH_MANUFACTURER_PROPRIETARY_FAILURE_CODE (0x03)	See below
0x08	NOTIFICATION_EVENT_POWER_MANAGEMENT_POWER_HAS_BEEN_APPLIED (0x01) This event for the thermostat switch on by panel or was powered on.	

2.6 Fault Alert

	1 Byte							
Bits	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Error Code	Undefined	ER7	Undefined	ER5	ER4	ER3	Undefined	Undefined

2.6 Basic Command Class

For switch on/off the thermostat device,you can send Basic Set command to the switch on or off.And the the thermostat switch on/off by press button on the device,the device will send Basic Report to the gateway.

2.7 Binary Switch Command Class

For switch on/off the thermostat device,you can send Binary Switch Set command to the switch on or off.And the the thermostat switch on/off by panel,the device will send Binary Switch Report to the gateway.

2.8 Protection Command Class

Protection CC for child lock function.Supported the 0 and 1 protection level.

2.9 Thermostat Mode Command Class

Thermostat Mode Value	Supported Thermostat Mode	Defined By
0x01	THERMOSTAT_MODE_REPORT_MODE_HEAT_V3	ZWave Standard
0x00	THERMOSTAT_MODE_REPORT_MODE_OFF_V3	ZWave Standard
0x02	THERMOSTAT_MODE_REPORT_MODE_COOL_V3	ZWave Standard

2.10 Thermostat Setpoint Command Class

Supported the Setpoint type.

- THERMOSTAT_MODE_REPROT_MODE_HEAT
- THERMOSTAT_MODE_REPROT_MODE_COOL

2.11 Configuration Command Class

Parameter	Parameter Name	Size	Default Value(dec)	Descriptions
(0x04)	ECO Mode	4	0x00	0: OFF 1: ON
(0x08)	Window check	4	0x01	0: OFF 1: ON
(0x0A)	Frost	4	0x00	0: OFF 1: ON
(0x17)	Temp Unit	4	0x00	0: °C 1: °F
(0x1B)	Temp correction	4	0x00	-10~10
(0x1F)	Work days set	4	0x00	0x00: 5_2 0x01: 6_1 0x02: 7_0 0x03: 0_7
(0x28)	Child lock	4	0x00	0x00: OFF 0x01: ON
(0x2B)	Sensor mode	4	0x01	0x00: A 0x01: F 0x02: AF 0x03: A2 0x04: A2F 0x06: P
(0x3A)	Run mode	4	0x01	0x00: Manual 0x01: Program
(0x70)	Adaption	4	0x00	0x00: OFF 0x01: ON
(0x76)	Regulator	4	0x01E	0:OFF 1~30Min
(0x7B)	LCD backlight standby	4	0x0A	10~100 Step:10
(0x7C)	LCD backlight work	4	0x64	10~100 Step:10
(0x7F)	Regulator percentage	4	0x14	0~100 Step:10
(0x86)	DIF Celsius	4	0x0A	5 ~ 100, Step: 5, 10(1°C)
(0x87)	DIF Fahrenheit	4	0x0014	10 ~ 180, Step: 10, 20(2°F)
(0x88)	Frost Celsius	4	0x32	50 ~ 100, Step: 10, 50(5°C)

(0x89)	Forst Fahrenheit	4	0x019A	410 ~ 500, Step: 20, 410(41°F)
(0xB7)	Dry	4	0x1E	0: OFF, 5 ~ 120Min, Step: 5
(0xB9)	Celsius FLT	4	0x010E	50~600 (5~60°C), Step:5 °C
(0xBA)	Fahrenheit FLT	4	0x032A	410 ~ 1400, Setp: 10, 810(81°F)
(0xBC)	LCD display switch	4	0x01	0x00: OFF 0x01: ON
(0xBD)	Automatically get network time	4	0x00	0x00: OFF 0x01: ON
(0xC7)	Week program time	4	0x00000600	Byte 1: 0x00:working day, 0x01:rest day Byte 2: value range: 0~5 means schedule time is 1-6 Byte 3: Hour time value: BCD format Byte 4: Minute time value: BCD format Ex: working day and schedule time 1 6:00, then send report 0x00 0x00 0x06 0x00
(0xC8)	Week program Celsius Temp	4	0x000000D2	Byte 1: 0x00:working day 0x01: rest day Byte 2: schedule time,value range 0-5, means schedule time 1-6 Byte 3: target heating setting high byte Byte 4: target heating setting low byte Target temperature setting range: 0-400(0 means OFF) Ex: working day schedule time 1 21°C, then send report 0x00 0x00 0x00 0xD2

(0xC9)	Week program Fahrenheit Temp	4	0x000002BC	Byte 1: 0x00:working day 0x01: rest day Byte 2: schedule time,value range 0-5, means schedule time 1-6 Byte 3: target heating setting high byte Byte 4: target heating setting low byte Target temperature setting range: 320~1040(320 means OFF) Ex: working day schedule time 1 70°F, then send report 0x00 0x00 0x02 0xBC
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Importer:
Namron AS
Nedre kalbakkvei 88B
1081 Olso
Norway

Made in China