

Era Inn Edge S AC ZW BD

Engineering Specification

Table of Content

1	Overview.....	1
2	Specifications.....	2
3	Quick Start.....	3
3.1	<i>How to add the product.....</i>	3
3.1.1	Classic Inclusion.....	3
3.1.2	SmartStart.....	3
3.2	<i>How to remove the product.....</i>	3
3.3	<i>How to factory reset.....</i>	4
3.4	<i>How to set High Limit and Low Limit.....</i>	4
3.4.1	Important note.....	4
3.4.2	Recommended setting procedure.....	4
4	Software Function Definition.....	5
4.1	<i>Supported Command Classes.....</i>	5
4.2	<i>Basic Command Class mapping.....</i>	5
4.3	<i>Z-Wave Plus Info.....</i>	5
4.4	<i>Manufacturer Specific.....</i>	5
4.5	<i>Version.....</i>	6
4.6	<i>Association Group Info.....</i>	6
4.7	<i>Notification.....</i>	7
4.8	<i>Multilevel Switch.....</i>	7
4.9	<i>Application Reject Request.....</i>	7
4.10	<i>Configuration.....</i>	7

1 Overview

Era Inn Edge S AC ZW BD is a wireless control tubular motor, with knowledge of precise position.

This product supports Security 2 Command Class. While a Security S2 enabled Controller is needed in order to fully use the security feature. This product can be operated in any Z-Wave™ network with other Z-Wave certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

This product supports SmartStart. SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes after this product being powered on in the network vicinity.

2 Specifications

Parameter	Value
Model	E EDGE SI 620 AC ZW BD
Ratings	100-240 VAC, 0.8A, 50W
Nominal Speed	20rpm
Torque	6Nm
Location	Indoor
Operating Temperature	32~104°F (0~40°C)
Relative Humidity	8%~80%
Wireless Technology	Z-Wave
Z-Wave Module	ZM5101
Z-Wave Antenna Distance	40m
Z-Wave SDK Version	6.81.06
Z-Wave Library Type	Enhanced 232 Slave
Z-Wave Role Type	ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON
Generic Device Type	GENERIC_TYPE_SWITCH_MULTILEVEL
Specific Device Type	SPECIFIC_TYPE_CLASS_C_MOTOR_CONTROL
Security Class	Non-Security, S0, S2 Unauthenticated, and S2 Authenticated
SmartStart Compatible	Support. After powering on, SmartStart is auto activated.
Over The Air (OTA)	Support. Firmware can be updated via RF.
Multi Channel Device	No
Association	Support. Refer to Section 4.6 Association Group Info.
Factory Reset	Support. Refer to Section 3.3 How to factory reset.
Power-down Memory	Support. All command settings will stay unchanged even power down.

3 Quick Start

3.1 How to add the product

The following will step you through adding the product to your Z-Wave network.

Note:

When powered, the product will indicate Z-Wave status with color of LED frame:

- **Green LED flashes once and then off** - the product is already added to the Z-Wave network.
- **Red LED flashes once and then Green LED flashes slowly** - the product is not added to any Z-Wave network.

3.1.1 Classic inclusion

1. Power the product.
2. Set your main controller into its 'add product' mode. Refer to its manual if you are unsure of how to perform.
3. Quickly, triple click any one of the buttons. Green LED will flash quickly which indicates entering inclusion mode, and Node Info will be issued for adding.
4. If your controller supports S2 security, and you want to add the product into S2 Authenticated network, please scan the QR code or enter the PIN code (the underlined 5-digits of the DSK) when prompted. **[IMPORTANT] QR/PIN code can be found on the product. A full DSK string can be found on the packaging.**
5. Wait for the adding process to end.
6. Confirm the adding result. Successful adding will be confirmed by the Z-Wave controller's message or LED status. If adding is successful, Green LED will become solid for 3s and then off. If its Red LED become solid for 3s and then Green LED flash slowly, it indicates adding is unsuccessful. The product will auto-reset and then activate SmartStart. Repeat the above steps or contact us for further support if needed.

Note:

The classic manually inclusion will exit if triple click any one of buttons during the adding process. Its Red LED will become solid for 3s and then Green LED flashes slowly. The product will auto-reset and activate SmartStart.

3.1.2 SmartStart

1. Scan the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the product will be added automatically within 10 minutes after this product being powered on in the network vicinity.
2. Its Green LED will change to a fast blink after your controller beginning to respond to its SmartStart inclusion request.
3. Confirm the adding result. Successful adding will be confirmed by the Z-Wave controller's message or LED status. If adding is successful, Green LED will become solid for 3s and then off. If its Red LED become solid for 3s and then Green LED flash slowly, it indicates adding is unsuccessful. Repeat the above steps or contact us for further support if needed.

3.2 How to remove the product

1. Make sure the product is powered.
2. Set your main controller into its 'remove product' mode. Refer to its manual if you are unsure of how to perform.
3. Quickly, triple click any one of the buttons.
4. Wait for the removing process to end.
5. Confirm the removing result. Successful removing will be confirmed by the Z-Wave controller's message or LED status. If removing is successful, Green LED will become flash slowly. If its Red LED becomes solid for 3s and then off, it indicates removing is unsuccessful. Repeat the above steps or contact us for further support if needed.

3.3 How to factory reset

Reset procedure allows to restore the product back to its factory settings, which means all information about the Z-Wave controller and user configuration will be deleted.

1. Make sure the product is powered.
2. Press and hold any one of the buttons for at least 20s, and then Factory Reset is performed. The product will issue a Device Reset Locally Command via its Lifeline to notify the Lifeline destination that the product has been reset to its factory default state. And it will perform the reset operation regardless of whether or not the delivery of the Device Reset Locally Notification is successful.
3. Pay attention to the color change of the indicator light. After few seconds the product will be reset and restarted, which is signaled with the slowly flash Green LED indicator color.

Note:

If you press and hold for 2 seconds, Green and Red LED will turn on at the same time; If 5 seconds, Green and Red LED will flash quickly at the same time.

Resetting the product is not the recommended way of removing the product from the Z-Wave network. User reset procedure only if the primary controller is missing or inoperable. Certain product removal can be achieved by the procedure of removing described in "How to remove the product".

3.4 How to set High Limit and Low Limit

3.4.1 Important note

1. High Limit and Low Limit MUST be set before controlling the motor to move to a specific position. If High Limit or Low Limit is not set, it will return an Application Reject Request Command when receiving Switch Multilevel Set [Value = 0x01..0x62].
2. Only when the motor stops can High Limit and Low Limit be set.
3. High Limit and Low Limit will NOT reset when product is removed from the network.
4. High Limit and Low Limit will reset when factory reset is performed.
5. If High Limit or Low Limit is reset, it will issue Switch Multilevel Report [Current Level=0xFE, Target Level=0xFE, Duration=0x00] via Lifeline.
6. If High Limit and Low Limit are set, it will issue Switch Multilevel Report [Current Level=0x00, Target Level=0x00, Duration=0x00] or [Current Level=0x63, Target Level=0x63, Duration=0x00] via Lifeline.

3.4.2 Recommended setting procedure

1. Send Switch Multilevel Set [Value=0xFF or 0x63] to move the motor towards 100%. When the motor reaches to the expected 100% position, send Switch Multilevel Stop Level Change to the motor. And then send Configuration Set [Parameter=33, Size=1, Value=1] to save the current position as the High Limit of the motor.
2. Send Switch Multilevel Set [Value=0x00] to move the motor towards 0%. When the motor reaches to the expected 0% position, send Switch Multilevel Stop Level Change to the motor. And then send Configuration Set [Parameter=34, Size=1, Value=1] to save the current position as the Low Limit of the motor.

Note: If you want to modify the High Limit or Low Limit, it is RECOMMENDED that reset the High Limit or Low Limit firstly, and then repeat the above steps.

4 Software Function Definition

4.1 Supported Command Classes

In order to increase interoperability with legacy controlling nodes, this device can reply to Manufacturer Specific Get Commands received non-securely if it was granted the S0 network key as its highest Security Class.

Command Class	Version	Required Security Class
ZWAVEPLUS_INFO	2	None
SWITCH_MULTILEVEL	4	Highest granted Security Class
ASSOCIATION	2	Highest granted Security Class
CONFIGURATION	2	Highest granted Security Class
SCENE_ACTIVATION	1	Highest granted Security Class
SCENE_ACTUATOR_CONF	1	Highest granted Security Class
NOTIFICATION	8	Highest granted Security Class
APPLICATION_STATUS	1	None
ASSOCIATION_GRP_INFO	1	Highest granted Security Class
TRANSPORT_SERVICE	2	None
VERSION	2	Highest granted Security Class
MANUFACTURER_SPECIFIC	2	Highest granted Security Class
DEVICE_RESET_LOCALLY	1	Highest granted Security Class
POWERLEVEL	1	Highest granted Security Class
SECURITY	1	None
SECURITY_2	1	None
SUPERVISION	1	None
FIRMWARE_UPDATE_MD	4	Highest granted Security Class
BASIC	2	Highest granted Security Class

4.2 Basic Command Class mapping

Basic CCmaps toMultilevel Switch Command Class.

Basic Set = 255 maps to Multilevel Switch = 255

Basic Set = 0 maps to Multilevel Switch = 0

Basic Set = 1-99 maps to Multilevel Switch = 1-99

Basic Get/Report maps to Multilevel Switch Get/Report

4.3 Z-Wave Plus™ Info

Parameter	Value
Z-Wave Plus Version	0x01
Role Type	0x05 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAYS_ON)
Node Type	0x00 (ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE)
Installer Icon Type	0x1A00 (ICON_TYPE_GENERIC_WINDOW_COVERING_POSITION_ENDPOINT_AWARE)
User Icon Type	0x1A00 (ICON_TYPE_GENERIC_WINDOW_COVERING_POSITION_ENDPOINT_AWARE)

4.4 Manufacturer Specific

Parameter	Value
Manufacturer ID 1	0x01
Manufacturer ID 2	0x0F

Product Type ID 1	0x00(EU), 0x01(US), 0x02(AU), 0x1D(CN)
Product Type ID 2	0x03
Product ID 1	0x00
Product ID 2	0xBA

4.5 Version

Parameter	Value
Z-Wave Protocol Library Type	0x03
Z-Wave Protocol Version	0x06
Z-Wave Protocol Sub Version	0x07
Firmware 0 Version	0x01
Firmware 0 Sub Version	0x02
Hardware Version	0xBA
Number of firmware targets	0x01
Firmware 1 Version	0x01
Firmware 1 Sub Version	0x00

4.6 Association Group Info

Root device

ID	Name	Node count	Profile	Function
1	Lifeline	5	General: Lifeline	<p>Device Reset Locally Notification: Issued when Factory Reset is performed.</p> <p>Notification Report[Type=0x04;Event=0x02]: Issued when curtain motor is overheat.</p> <p>Notification Report[Type=0x04;Event=0x00]: Issued when curtain motor temperature returns to normal.</p> <p>Notification Report[Type=0x08;Event=0x06]: Issued when curtain motor is over-current.</p> <p>Notification Report[Type=0x08;Event=0x00]: Issued when curtain motor current returns to normal.</p> <p>Notification Report[Type=0x09;Event=0x03;EventParameter=0x01]: Issued when over torque error detected.</p> <p>Notification Report[Type=0x09;Event=0x03;Event Parameter=0x02]: Issued when obstacle error detected.</p> <p>Notification Report[Type=0x09;Event=0x03;Event Parameter=0x03]: Issued when under voltage error detected.</p> <p>Notification Report[Type=0x09;Event=0x03;Event Parameter=0x04]: Issued when unresolvable error detected.</p> <p>Notification Report[Type=0x09;Event=0x03;EventParameter=0x05]: Issued when UART communication error detected.</p> <p>Notification Report[Type=0x09;Event=0x00;EventParameter=Value*]: Issued when system hardware failure event returns to normal. <i>Value*</i> is equal to the corresponding failure code.</p> <p>Multilevel Switch Report: Issued when curtain position changed.</p> <p>Configuration Report: Issued if configuration parameters changed on an event from installer tool or if change of configuration parameter caused a change in the value of another one.</p>
2	Retransmit	5	General: NA	Retransmit a Basic Set, Multilevel Switch Set, Multilevel Switch Start Level Change, Multilevel Switch Stop Level Change or Scene Activate Set to the nodes associated.
3	Configuration	5	General: NA	If node receives Configuration Bulk Set or Configuration Set(parameter MUST be in the range from 39 to 43), it will send Configuration Bulk Set with Handshake=0 or Configuration Set to nodes associated.

4.7 Notification

Notification Type		Notification Events		Description
Heat Alarm	0x04	State Idle	0x00	Curtain motor temperature returns to normal.
		Overheat detected	0x02	Curtain motor is overheat.
Power Management	0x08	State Idle	0x00	Curtain motor current returns to normal.
		Over-current detected	0x06	Curtain motor is over-current.
System	0x09	State Idle	0x00	System hardware failure event returns to normal. Event Parameter is equal to the corresponding failure code.
		System hardware failure (manufacturer proprietary failure code provided)	0x03	Event Parameter=0x01: over torque
				Event Parameter=0x02: obstacle
				Event Parameter=0x03: under voltage
				Event Parameter=0x04: unresolvable
Event Parameter=0x05:UART communication error				

4.8 Multilevel Switch

The device doesn't respect the specified Duration value when receiving Multilevel Switch Set or Multilevel Start Level Change.

The Duration field in Multilevel Switch Report advertises the time needed to reach the Target Value at the actual transitionrate.

4.9 Application Reject Request

- 1.If High Limit or Low Limit is not set, it will return an Application Reject Request Command when receiving Switch Multilevel Set [Value = 0x01..0x62].
- 2.It will return an Application Reject Request Command when receiving command that used to set High Limit and Low Limit at the same position.
- 3.If motor is moving, it will return an Application Reject Request Command when receiving any Configuration Set or Configuration Bulk Set (except Factory Reset through Parameter 255).
- 4.It will return an Application Reject Request when receiving Configuration Bulk Set or Get different size parameters.
- 5.It will return an Application Reject Request when receiving Configuration Bulk Get which Parameter Offset is non-existing parameter.

4.10 Configuration

Parameter	0x21 (33)			
Properties	Size	1	Min Value	0
	Format	Signed Integer	Max Value	1
	Write/Read	Write and Read	Default Value	0
Description	This parameter is used to save High Limit of the motor as the actual position of the motor. Note:			
	1. High Limit MUST be set before controlling the motor to move to a specific position.			
	2. Onlywhen the motor stops can High Limit be set.			
	3. High Limit will NOT reset when device isremoved from the network.			
4. If this parameter will be changed without gateway knowledge unsolicited report with its value will be send to Lifeline destination.				
5. If High Limit is reset, it will issue Switch Multilevel Report [Current Level=0xFE, Target Level=0xFE, Duration=0x00] via Lifeline.				
	Value	Function		
	0	SET: Reset the High Limit; REPORT: High Limit is not set		
	1	SET: Set the High Limit; REPORT: High Limit is set		

Parameter		0x22 (34)		
Properties	Size	1	Min Value	0
	Format	Signed Integer	Max Value	1
	Write/Read	Write and Read	Default Value	0
Description	This parameter is used to save Low Limit of the motor as the actual position of the motor. Note: 1. Low Limit MUST be set before controlling the motor to move to a specific position. 2. Only when the motor stops can Low Limit be set. 3. Low Limit will NOT reset when device is removed from the network. 4. If this parameter will be changed without gateway knowledge unsolicited report with its value will be send to Lifeline destination. 5. If Low Limit is reset, it will issue Switch Multilevel Report [Current Level=0xFE, Target Level=0xFE, Duration=0x00] via Lifeline.			
	Value	Function		
	0	SET: Reset the Low Limit; REPORT: LowLimit is not set		
	1	SET: Set the Low Limit; REPORT: LowLimit is set		

Parameter		0x27 (39)		
Properties	Size	4	Min Value	16
	Format	Signed Integer	Max Value	48
	Write/Read	Write and Read	Default Value	32
Description	This parameter is used to configure the motor default movement speed.			
	Value	Function		
	16-48	Unit is r/min.		

Parameter		0x29 (41)		
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	30
	Write/Read	Write and Read	Default Value	0
Description	This parameter is used to configure SoftStart.			
	Value	Function		
	0-30	Unit is 0.1round.		

Parameter		0x2A (42)		
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	30
	Write/Read	Write and Read	Default Value	15
Description	This parameter is used to configure Soft Stop.			
	Value	Function		
	0-30	Unit is 0.1round.		

Parameter		0x2B (43)		
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	4
	Write/Read	Write and Read	Default Value	0
Description	Configure the obstacle detection level.			
	Value	Function		
	0-4	0: The lowest level 4: The highest level		

Parameter		0x2D (45)		
Properties	Size	4	Min Value	0

	Format	Signed Integer	Max Value	0x00FFFFFF
	Write/Read	Read-only	Default Value	0
Description	Get the minimum, maximum and default time of move. Note: If value equals to 0x00000000, it means the High or Low Limit has not been set.			
	Value	Function		
	Byte1	[MSB] Reserved		
	Byte2	The minimum time of move (with max speed)		
	Byte3	The maximum time of move (with min speed)		
	Byte4	[LSB] The default time of move (with default speed)		

Parameter	0x46 (70)			
Properties	Size	2	Min Value	0
	Format	Signed Integer	Max Value	255
	Write/Read	Write and Read	Default Value	0
Description	Set the motor wiggle times and start wiggling, or stop wiggling Note: When wiggle ends, an unsolicited report to Lifeline destination with the value 0 will be sent. If module receives control command in CC Multilevel Swich/Basic automaticcaly stops the wiggle.			
	Value	Function		
	0	SET: Stop wiggling; REPORT: Wiggling ends		
	1-255	Set the motor wiggle times and start wiggling		

Parameter	0xA5 (165)			
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	0x0000FFFF
	Write/Read	Read-only	Default Value	0
Description	Get MotorHardware Version			
	Value	Function		
	Byte1	[MSB] Reserved		
	Byte2	Reserved		
	Byte3	Motor Hardware Version		
	Byte4	[LSB] Motor Hardware Sub Version		

Parameter	0xA6 (166)			
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	0x00FFFFFF
	Write/Read	Read-only	Default Value	0
Description	Get Motor FactoryData: Gearbox Ratio and Motor Norminal Speed			
	Value	Function		
	Byte1	[MSB] Reserved		
	Byte2	Gearbox Ratio MSB		
	Byte3	Gearbox Ratio LSB		
	Byte4	[LSB] Motor Norminal Speed		

Parameter	0xA7 (167)			
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	0x00FFFFFF
	Write/Read	Read-only	Default Value	0
Description	GetMotor FactoryData: Motor Minimum Speed, Motor Maximum Speed and Wiggle Speed			
	Value	Function		
	Byte1	[MSB] Reserved		

	Byte2	Motor Minimum Speed
	Byte3	Motor Maximum Speed
	Byte4	[LSB] Wiggle Speed

Parameter	0xA8 (168)			
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	0x00FFFFFF
	Write/Read	Read-only	Default Value	0
Description	Get Motor FactoryData: Obstacle Detection Max Level, Battery Motor and Soft Start/Stop Max			
	Value	Function		
	Byte1	[MSB] Reserved		
	Byte2	Obstacle Detection Max Level		
	Byte3	Battery Motor		
	Byte4	[LSB] Soft Start/Stop Max		

Parameter	0xFF (255)			
Properties	Size	4	Min Value	0
	Format	Signed Integer	Max Value	0x55555555
	Write/Read	Write and Read	Default Value	0
Description	ResetConfiguration Parameter 39,41,42,43 to factory setting OR Factory Reset the product.			
	Value	Function		
	0x00000000	Reset Configuration Parameter 39,41,42,43 to factory setting Note: Configuration Report [Parameter=255, Size=4, Value=0x00000000] will be issued via Lifeline when this function executed.		
	0x55555555	Factory Reset the product and remove it from the network. Note: All Configuration Parameter will be reset to factory setting.		