DCT2RTS interface and Z-Wave2RTS interface Product manual

SAFETY AND IMPORTANT INFORMATION

- This Somfy product must be installed by a professional installer, for whom these instructions are intended.
- Before installation, check that this product is compatible with the associated equipment and accessories.
- These instructions describe how to do installation, commission and use this product.
- Moreover, the installer must comply with current standards and legislation in the country in which the product is being installed, and inform his customers of the operating and maintenance conditions for the product.
- Any use outside the sphere of application specified by Somfy is not approved. Such use, or any failure to comply with the instructions given herein will invalidate the warranty, and Somfy refuses to accept liability.
- The equipment (interface) is for built-in use.

CAUTIONS

- Always remove the micro-USB cable horizontally and gently. Incorrect removal could cause damage to the USB port.
- The output voltage of micro-USB power adaptor cannot exceed 5VDC @500mA
- The interface must be installed securely in a fixed position which allows a steady and level USB input.
- Do not install the interface in metal cases as it may affect the radio signal strength.
- Install the device on the fixed mounting, e.g wall.
- Avoid dust and water, which may damage the device.
- The DCT2RTS interface and Z-WAVE2RTS interface are for internal use only.
- Do not disassemble the unit.

PRODUCT DESCRIPTION

- **DCT2RTS gateway:** Provides communication between third party home automation systems and RTS motors through simple dry contact input interface.
- **Z-Wave2RTS interface:** Z-Wave enabled device (interoperable, two-way RF mesh networking technology) that is fully compatible with any Z-Wave enabled network. Receives Z-Wave signals and translates them into RTS commands to allow control of Somfy RTS enabled motors. The Z-Wave2RTS interface supports mulit-channel Command Class for up to 8 devices corresponding to control of up to 8 individual or 8 groups of Somfy motorized products.
  Z-Wave enabled device acts as a signal repeater and multiple devices result in more possible transmission routes which helps eliminate "RF dead-spots".
  Z-Wave enabled device displaying the Z-Wave logo can also be used with it regardless of the manufacturer, and ours can also be used in other manufacturer's Z-Wave enabled networks.

DCT2RTS, Z-WAVE2RTS interface functions description

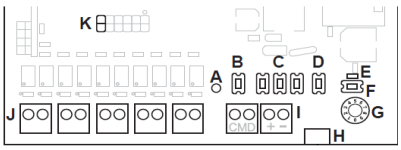

Fig.1

A – RTS LED / Status LED
  Green: Power ON
  Blue: Transmitting RTS command
  Red: Error
B – RTS Program button
C – RTS test buttons for UP/DOWN/STOP
D – Z-WAVE program button
E – Z-WAVE LED
  Flash: Open to add Z-WAVE network
  OFF: Z-WAVE network added
F – Reset button
G – RTS channel selector
H - 5VDC micro-USB port (*optional)
I – 12-24V DC input port
K – Switch type selection

Please select either "Fixed position switch mode" or "Momentary switch mode" by the jumper (item K) before powering ON the device.

- Jumper close (short)=Momentary switch (default)
- Jumper open=Fixed position switch

DCT2RTS interface setting

1. **Installation**
   1.1. Disconnect the power
   1.2. Select which type of switch will be connected (fig.1)
   1.3. Wire either switches (fig.2) or dry-contact relay outputs (fig.3) to the indicated DCT terminals at the bottom of the DCT2RTS Interface.
   1.4. Connect the power. The status LED will turn green to indicate the device is operating.
2. **RTS commissioning**
   Before using the DCT2RTS interface, we recommend programming each motor in advance using an individual Somfy remote control (e.g. Telis) and set the limit positions of each motor.
   Procedure
   2.1. Select the channel of the motor on the existing remote control, hold the program button on the remote for 3 seconds, for the motor to jog
   2.2. Select the desired channel (channel 1 – channel 5) via the RTS channel selector.
   2.3. Press and hold the RTS PROG button for 1 second.
   2.4. RTS motor jogs; the motor is now programmed to DCT2RTS gateway.
   2.5. Repeat the same procedure to remove a motor from the DCT2RTS gateway.
   RTS motors functional test
   2.6. Select the channel via the RTS channel selector.
   2.7. Press the UP/DOWN button on DCT2RTS interface to control RTS motors.
   2.8. The motor jogs to indicate the connection is successfully established. If the motor does not respond to the command, it means the establishment failed. Repeat 1.2.1 Procedure, Steps 1-4 again. Alternately it may simply mean that the RTS motor has been removed.
3. **Operation**
   3.1. To activate an UP command, a minimum of 0.5 second closure is required between the UP and COM terminals (5VDC). The status LED turns blue to indicate that RTS signal is sent.
   3.2. To activate a DOWN command, a minimum of 0.5 second closure is required between the DOWN and COM terminals (5VDC). The status LED turns blue to indicate that RTS signal is sent.
   3.3. To activate a STOP command, a closure is required between UP, DOWN and CMD terminals.

Attention: Press and hold the RTS_PROG button for 5 seconds, the concerned RTS motor will enter to RTS programming mode.

Z-Wave2RTS interface setting

1. **Installation**
   1.1 Disconnect the power (fig.4)
   1.2 Locate the Z-Wave2RTS interface within direct range of the Z-Wave HUB.
   1.3 Select the "appropriate channel number" on the RTS channel selector.
   1.4 Connect the power. The status LED will turn green to indicate the device is operating.
   1.5 The Z-WAVE LED will blink to indicate Z-WAVE2RTS interface is opened to add to Z-WAVE network.

!! The channel number selected should reflect the number of RTS channels being applied on Z-Wave Hub, for example, if 3 channels will be used, then select number 3 on the RTS channel selector before powering on the Z-WAVE2RTS interface.

2. **RTS commissioning**
   Z-Wave2RTS interface supports RTS channel 1 to channel 8. For details, please refer to section 1.2.
3. **Z-Wave network commissioning**
   Inclusion (Add Z-Wave2RTS interface to Z-Wave Hub)
   3.1 Enable the Z-Wave HUB into the Inclusion mode.
   3.2 Short press the Z-Wave PROG button for 3 times. Z-Wave2RTS interface will be added in the Z-Wave network automatically.
   3.3 The Z-WAVE LED turns OFF indicating that the Z-Wave2RTS interface has successfully added the Z-Wave network.
   Exclusion (Remove Z-Wave2RTS interface from Z-Wave Hub)
   3.4 Power ON the Z-Wave2RTS interface.
   3.5 Enable the Z-Wave HUB into exclusion mode.
   3.6 Short press the Z-Wave PROG button for 3 times.
   3.7 The Z-WAVE LED blinks indicating that the Z-Wave2RTS interface has successfully been removed from the Z-Wave network.
   Reset the Z-Wave module to factory modePlease use this procedure only in the event that your network primary controller is missing or otherwise inoperable.
   3.8 Power OFF the Z-Wave2RTS interface.
   3.9 Press and hold the Z-Wave PROG button.
   3.10 Power ON the Z-Wave2RTS interface and wait for 10 seconds.
   3.11 The Z-Wave LED blinks indicating that the data is cleared and it is opened to add to Z-Wave network.

Tips: How the endpoint is used by the Z-Wave2RTS interface?

Z-Wave2RTS interface supports Z-Wave multi-channels command class. Each endpoint represents each RTS channel. For example, endpoint no.1 equal to RTS channel no.1, endpoint no.2 equal to RTS channel no.2 and etc. All End Points have the same Generic and Specific Device Class and Optional Command Classes.

Generic Device Class : GENERIC_TYPE_SWITCH_MULTILEVEL
Specific Device Class : SPECIFIC_TYPE_CLASS_A_MOTOR_CONTROL
Supported Command Classes : COMMAND_CLASS_ZWAVEPLUS_INFO,
COMMAND_CLASS_ASSOCIATION_GRP_INFO,
COMMAND_CLASS_ASSOCIATION_V2,
COMMAND_CLASS_SWITCH_MULTILEVEL_V4

Wiring diagram

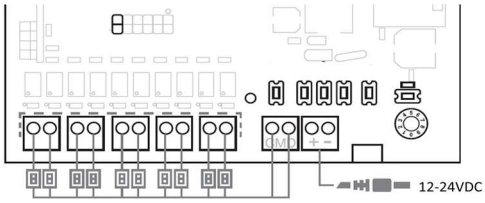

Fig.2 Switches direct connect to DCT2RTS interface wiring

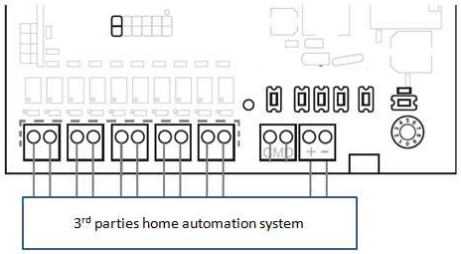

Fig.3 Home automation system directs connect to DCT2RTS interface wiring

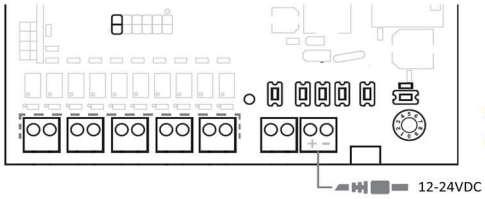

Fig. 4 Z-Wave2RTS interface requires power supply only

Z-Wave manual

1. Include/Exclude ZWAVE network	
Press the ZWAVE_PROG button for 3 times.	ZWave2RTS interface will send signals to Zwave Hub to perform the Include/Exclude action. The red LED on the ZWave2RTS interface blinks indicating that it has not added ZWave network. The red LED remains off when it has successfully added to ZWave network.

2. RTS Output Control (Control RTS motors via Zwave Hub)	
Binary Switch Set (0xFF)	The blind goes UP.
Binary Switch Set (0x00)	The blind goes Down.
Note: Multi Channel CMD ENCAP V4 Command.	

3. MultiChannel Association / Association (Control RTS motors via DCT switch)	
Group 1 supports 1 node / EndPoint.	Report ZWave2RTS interface address to ZWAVE Hub (node) after reset.
Group 2 supports 5 nodes / EndPoints.	Report DCT status to Hub (node) when DCT port is triggered. The DCT status feedback send to Hub automatically. If EndPoint is defined, it will be use MultiChannel Command to report the DCT status

4. RESET Zwave module to factory mode	
Press and hold the ZWAVE_PROG button for 3 seconds after power ON to the ZWave2RTS interface	All Z-Wave data will be cleared and return to the Inclusion mode

5. Repeater function	
ZWave2RTS gatewayZWave2RTS interface supports standard repeater function	Support repeaters for routing (include FLiRS devices).

6. OTA function	
ZWave2RTS gateway supports "Over The Air" to upgrade firmware.	Support OTA-Firmware update.

Switch compatibility Table

- **Momentary switch (Default mode):** It is only on when the button is pressed. As soon as you release the button, the circuit is opened
- **Fixed position switch**: An on/off switch that rocks when pressed, which means one side of the switch is raised while the other side is depressed much like a rocking horse rocking back and forth

Blind movement	Fixed position switch	Momentary switch
UP	Press UP	Press UP, then release (~1 sec)
DOWN	Press DOWN	Press DOWN, then release (~1 sec)
STOP	After Press UP or DOWN over 2 sec, then release #	While moving up, short-press 1 more UP; While moving down, short press 1 more DOWN OR While moving, Short-Press UP+DOWN ^
Tilt UP	N/A	To start Tilt, Press UP (>2sec)* To stop Tilt, release UP button
Tilt Down	N/A	To start Tilt, Press DOWN (>2sec)* To stop Tilt, release DOWN button

if button pressed over 5 minutes, STOP command will not send
* For non-tilt-able blinds, long-pressing UP/DOWN may trigger moving UP/DOWN fitfully
^ For blinds with My Position, short-press UP/DOWN button while the blinds are not moving, the blinds will go to My Position

Z-Wave command Class

Device Type : Window Covering No Position/Endpoint
Generic Device Class : GENERIC_TYPE_SWITCH_MULTILEVEL
Specific Device Class : SPECIFIC_TYPE_CLASS_A_MOTOR_CONTROL
Icon : ICON_TYPE_GENERIC_WINDOW_COVERING_NO_POSITION_ENDPOINT

COMMAND_CLASS_Z-WAVEPLUS_INFO
COMMAND_CLASS_ASSOCIATION_V2
COMMAND_CLASS_ASSOCIATION_GRP_INFO
COMMAND_CLASS_DEVICE_RESET_LOCALLY
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2
COMMAND CLASS MANUFACTURER SPECIFIC V2
COMMAND_CLASS_MULTI_CHANNEL_V4
COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
COMMAND_CLASS_POWERLEVEL
COMMAND_CLASS_SWITCH_BINARY
COMMAND_CLASS_SWITCH_MULTILEVEL_V4
COMMAND_CLASS_VERSION_V2

Technical specification

Item	Value	Remark
Input voltage (DC input port)	12VDC – 24VDC	Main power to DCT2RTS interface or Z-WAVE2RTS interface
Input voltage (Micro-USB port)	5VDC	*Optional
Operating current	200mA(max)	
Dry contact input (DCT) voltage	5VDC – 24VDC	Logic HIGH (VDC) triggers action. Logic LOW (0V) clears action.
RTS radio frequency Range distance No of channel No of channel	433.42MHz 20m with 2 concrete walls 5 8	For DCT2RTS interface (ch1-5) For Z-Wave2RTS interface (ch1-8)
Z-Wave radio frequency Range of distance	921.4 MHz 20m in indoor	AU-frequency
Operating Temperature	0°c to 50°c	
Dimension (without cover) Dimension (with cover)	125mm(L) x 88mm(W) x 30mm(H) 125mm(L) x 105mm(W) x 32mm (H)	
Weight	Z-Wave2RTS 138g DCT2RTS 134g	
DC power	12-24VDC	DC power transformer excluded

TIPS AND RECOMMENDATION FOR DCT2RTS interface

- The DCT2RTS interface requires 12-24VDC power. The power cable is connected to the power terminal (item I) using the screw to fix it.
- To improve the RTS radio range, we recommend the DCT2RTS be placed in an unconfined place in the middle of the house (avoid metallic surfaces and enclosures).
- In momentary switch mode, only press one button at a time.
- Tilting motion only apply on 1 channel at one time via DCT interface
- The DCT input must have at least 1.5 second suspension in between successive RTS commands.
- All DCT input port cannot be connected (short circuit) together. (fig.5)
- Does not support fixed position switch mode and momentary switch mode simultaneously. See below picture. (fig. 6)

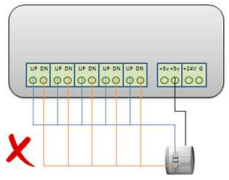

Fig.5

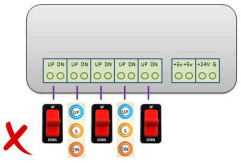

Fig.6

TIPS AND RECOMMENDATION FOR Z-Wave2RTS interface

- Before power ON the device, please set the maximum number of RTS channels on RTS channel selector (item G)
- The Z-Wave2RTS interface requires 12-24VDC power. The power cable is connected to the power terminal (item I) using the screw to fix it. As an alternative, power can be supplied through the 5VDC Micro-SUB if the proper adapter is used.
- Supply powers either 12-24VDC or 5VDC micro-USB input port. The device cannot be operated by both power inputs together.

ENVIRONMENT

Damaged electric products and batteries should not be disposed of with normal household waste. Make sure to drop them in specially provided containers or at an authorized organization that will ensure they are recycled.