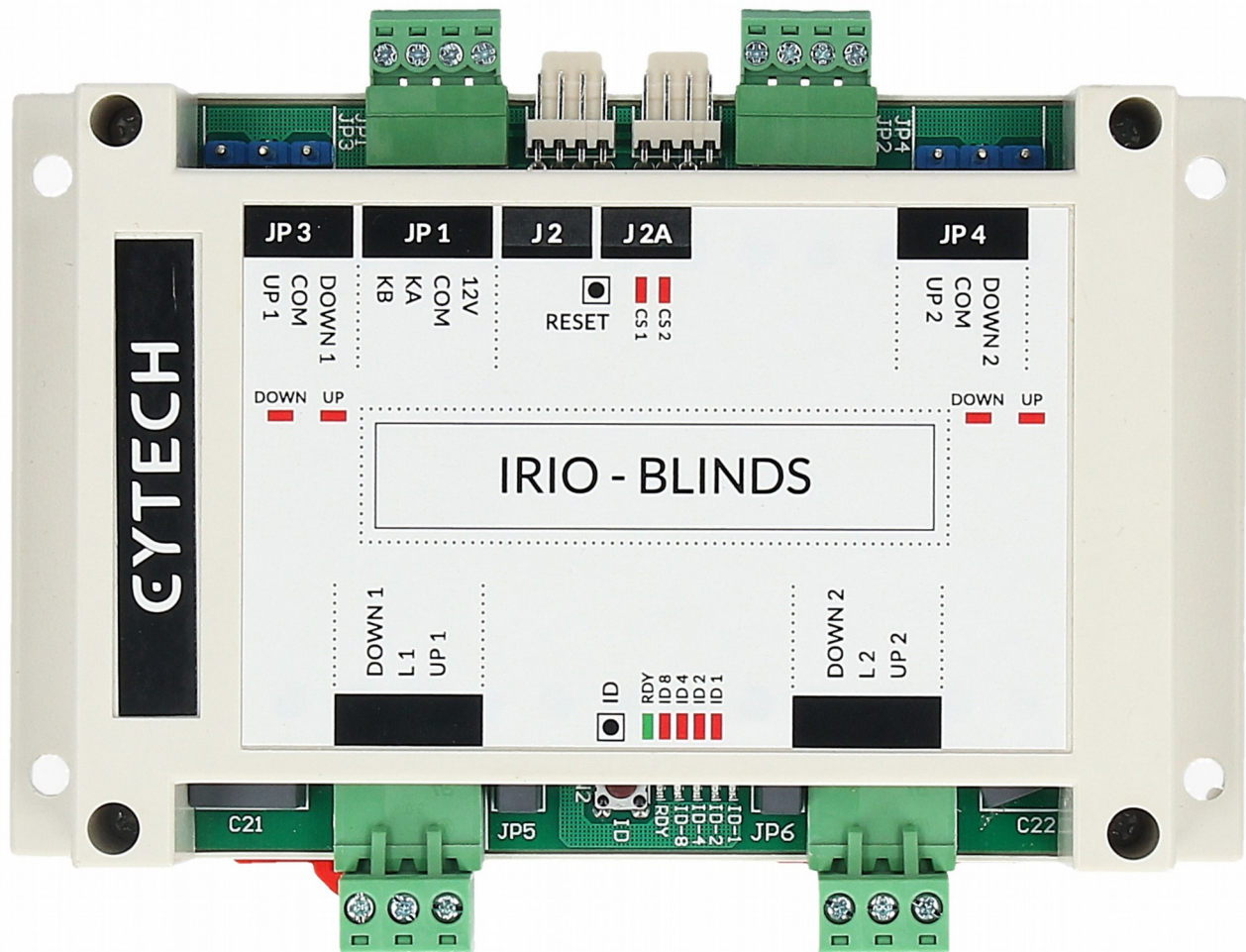


IRIO/Blinds Manual



The IRIO/Blinds module is a controller for Blinds and Curtain motors. The 230VAC supply is switched to the Up and Down relays to drive the blinds motor. A built in current sensor allows the IRIO to know when the motor is in operation and when it has stopped so it can know more accurately its current position. This makes it possible to move the blinds to any position.

The IRIO/Blinds can be used standalone for blinds control or it can be connected to a network with Comfort CP9000, UCM/Logic or LGX01 Logic Engine.

Relay Specifications

Each Blinds Submodule has 2 Relays (UP, DOWN) to switch the 230V mains supply to the blinds motor.

Breakdown Voltage (Contact – Coil) 1500VAC 1 min

Insulation Resistance 1000 Mohms

Switching Capacity 240VAC, 2A

Mechanical Life 100 million cycles

Electrical Life 100,000 cycles

Coil Resistance 720 Ohms (17 mA operating current from 12V)

The firmware only allows 1 relay can be turned on at any time so Up and Down cannot be both energised.

ID Settings

Up to 15 IRIOs which may include IRIO/TWS and IRIO-BLIND may be installed in a system. The ID of the IRIO can be seen via the state of LEDs ID1, ID2, ID4, ID8 according to the table below. For Default ID=1, ID1 is on, others are off.

To change the ID, press and Hold the ID button for 4 seconds. Press and release to increment the ID to the next value 1 to 15. Release the button to end. The IRIO will automatically reset.

The ID LEDs shows the ID according to the table below. If there are more than 1 **IRIO or SCS** in the system, the IDs must be unique and consecutive, eg 1,2,3, etc. Otherwise the system will report “Communications Failure”

ID #	ID8	ID4	ID2	ID1	ID#	ID8	ID4	ID2	ID1
1	Off	Off	Off	On	9	On	Off	Off	On
2	Off	Off	On	Off	10	On	Off	On	Off
3	Off	Off	On	On	11	On	Off	On	On
4	Off	On	Off	Off	12	On	On	Off	Off
5	Off	On	Off	On	13	On	On	Off	On
6	Off	On	On	Off	14	On	On	On	Off
7	Off	On	On	On	15	On	On	On	On
8	On	Off	Off	Off					

Buttons

- RESET. This button between J2and J2A resets the IRIO/BLINDS. It does not change any other settings.

LED Indicators

- ID1, ID2, ID4, ID8: ID indicators
- DO1, DO2, DO3, DO4: These LEDs correspond to Relay Outputs 1 to 4 but they do not indicate that the corresponding Light is on or off because of the two way switch mechanism.

Connections

Warning: This work should be done by a qualified electrician. Refer to the label on IRIO/BLINDS

JP1 – 4 way Pluggable connector (Green)

12V/COM – Power Supply 12V from Controller (Comfort, LGX01, UCM/Log)

KA/KB – RS485 Bus from Controller (Comfort, LGX01, UCM/Log)

J2/J2A – 4 way header (White)

12V/COM/KA/KB – 4 way cable from Controller (Comfort, LGX01, UCM/Log). Use the white 4 way cable if the IRIO-TWS is mounted close to the Controller. This is an alternative connection point to JP1. JP2 and JP2A have the same xisgnals and can be used for Daisy chaining to other modules.

JP2 – 4 way Pluggable connector (Green)

Connections for 2 x 0-10V Outputs

DIM1/COM: 0-10V output 1

DIM2/COM: 0-10V output 2

JP5 – To Blinds 1 Motor

UP1	Connect to Blind 1 Up terminal
L1	Connect to 230V Live
DOWN1	Connect to Blind 1Down terminal

JP6 – To Blinds 2 Motor

UP2	Connect to Blind 2 Up terminal
L2	Connect to 230V Live
DOWN2	Connect to Blind 2 Down terminal

JP3 – To Pushbutton Switch 1

UP1	Pushbutton switch for Blinds 1 UP is connected between UP1 and COM
COM	Common connection for UP1 and DOWN1 switches
DOWN1	Pushbutton switch for Blinds 1 DOWN is connected between DOWN1 and COM

JP4 – To Pushbutton Switch 2

UP2	Pushbutton switch for Blinds 2 UP is connected between UP2 and COM
COM	Common connection for UP2 and DOWN2 switches
DOWN2	Pushbutton switch for Blinds 2 DOWN is connected between DOWN2 and COM

For up and down buttons, a short press of less than 3 seconds on the pushbutton will move the blinds while pressed. A long press exceeding 3 sec will move the blinds all the way by travel time. Pressing any of the buttons while the blinds is moving will stop the blinds.

Current Sensor

An Internal current sensor detects the current flowing to the Blinds motor so that IRIO/BLINDS knows when the motor is running and when it is stopped. This allows the travel time to be calculated so that position of the blinds can be determined.

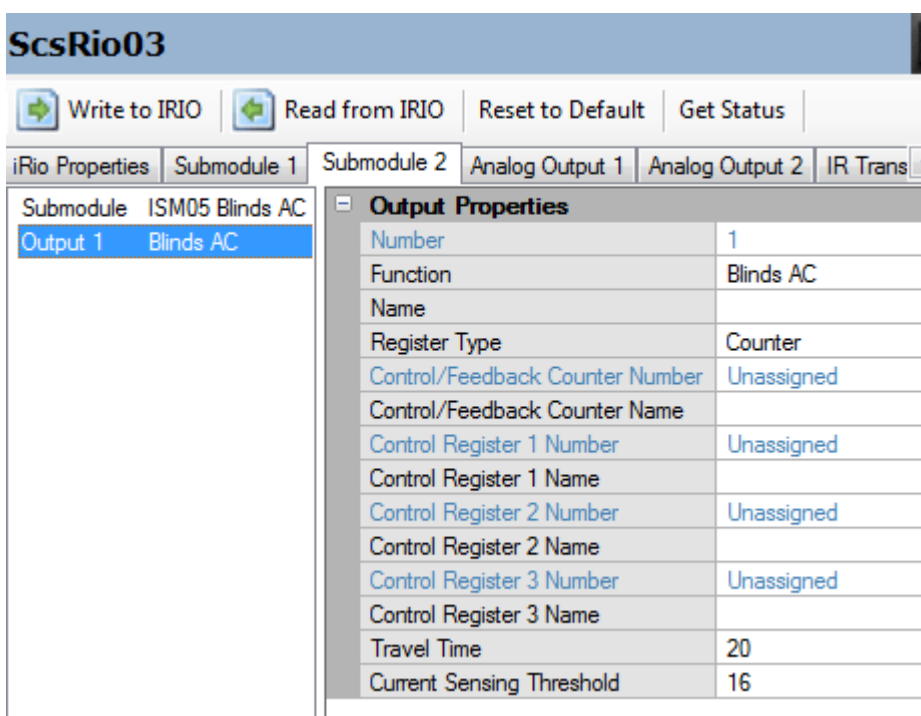
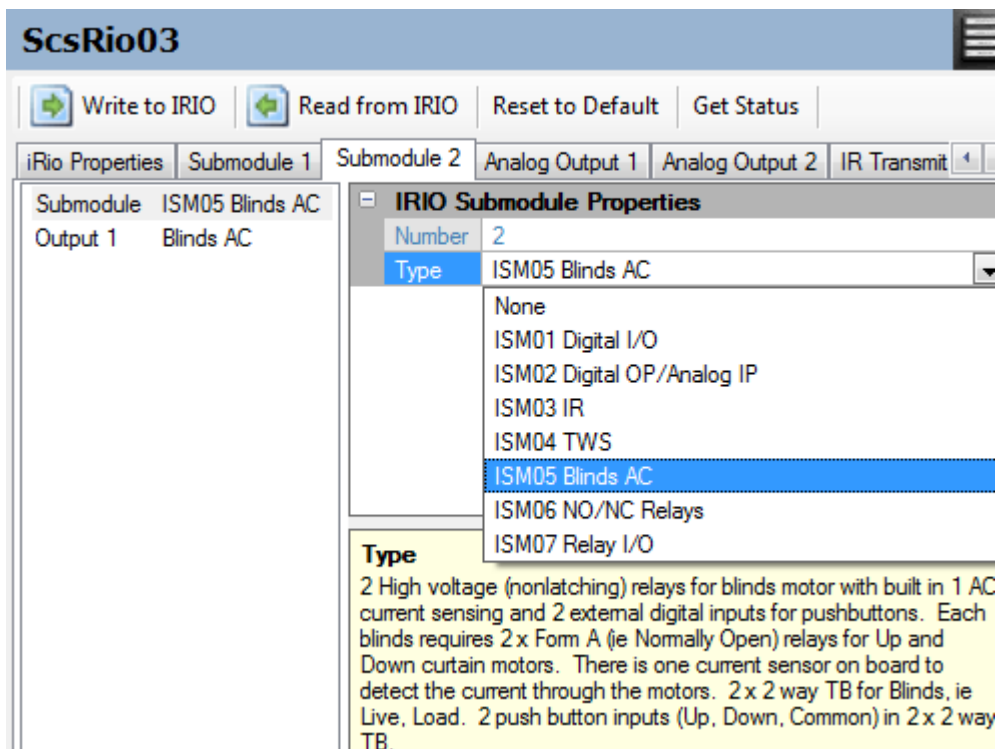
Programming by Configurator

Refer to instructions above for setting the IRIO ID and meaning of the LEDs.

If the IRIO/Blinds is connected, Read from IRIO will detect the Submodule in Submodule 1 and 2.

Each Submodule allows programming of 2 sets of Blinds

Select the Submodule (1 or 2) . In Submodule 1 and 2, Type should be ISM05 Blinds AC (see below)



When Blinds has been selected, Output 1 can be selected on the left.

Control Counters 1-3

Comfort controls the curtain by setting a counter value for control. Up to 3 counters can be mapped for control so that scenes can be supported. The counter value 0 is the top position while 255 is the bottom position. 1 to 254 are intermediate positions from top to bottom of travel. Setting a value into any of the 3 Control Counters should move the blinds to the desired position. For example a counter value of 128 will move the blinds to the halfway position (approximately).

Feedback Counter

The actual position of the blinds from the top is mapped to a Comfort Counter so feedback status can be obtained. The feedback counter must not be the same number as other feedback counters, although it can be the same as one of the Control Counters.

Travel Time

Enter the time taken by the blinds to fully travel from top to bottom or vice versa. A higher number than the actual travel time should be entered, i.e. this should be a maximum limit of travel. There should be a limit switch installed on the blinds to stop the motor when it reaches top or bottom. The IRIO/Blinds will know when the motor has stopped moving via the built-in current sensor. The Travel Time setting may be adjusted after some years if the Motor speed has changed.

Current Sensing Threshold

This parameter is not used. Please ignore it.

Configurator Programming Example

The screenshot shows the 'ScsRio01' configurator interface. The 'Output Properties' tab is selected for 'Submodule 2'. The properties are as follows:

Output Properties	
Number	1
Function	Blinds
Name	Kitchen
Register Type	Counter
Control Counter 1 Number	2
Control Counter 1 Name	Counter002
Control Counter 2 Number	Unassigned
Control Counter 2 Name	
Control Counter 3 Number	Unassigned
Control Counter 3 Name	
Feedback Counter Number	2
Feedback Counter Name	Counter002
Travel Time	20
Current Sensing Threshold	16

In the above setup, The Blinds Submodule is installed in position 2 on the IRIO. Control Counter 1 has been mapped to Counter 2, and the feedback counter is also Counter 2.

The maximum travel time from top to bottom and bottom to top should be measured. This is a safety value to be used to stop the motor in case the limit switch in the blinds does not work.

Write to IRIO to save the parameters

In Comfort Response

Open Blinds/ Blinds Up

Set Counter002 = 0

Close Blinds/ Blinds Down

Set Counter002=255

Move Blinds 50%

Set Counter002=128

Document History
26 February 2016 – Initial Release
4 April 2017 – revised

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