

# INSTALLATION MANUAL

## ENERGY SERVANT

### 10 FUNCTIONS CONTROLLER

Model: ES-10F-CM



## **i** PRODUCT INFORMATION

Energy Servant 10-Function Sensor is a ceiling sensor with an elegant design that includes a PIR motion sensor, light harvest sensor, relay outputs, digital input, temperature sensor, infrared emitter, and 32 logic and timer lines with great capabilities to ensure the most efficient energy use and home theater appliances control by IR.

### PRODUCT SPECIFICATIONS

<b>PIR, Lux and Dry inputs</b>	PIR motion sensor Digital input. Open / Close Length of connected wire to DI Light intensity sensor	Dual element pyro-electric ceramic 2 Channels < 350 meter 0 – 8000 Lux meter
<b>Temperature sensor</b>	accuracy Operating Range Respond Time	+/- 0.3 C -40°C – 85°C 5-30 Seconds
<b>TIS Bus</b>	Number of devices on 1 line Bus voltage Current consumption	Max. 64 12-32 V DC <15 mA / 24 V DC
<b>PIR Detection</b>	PIR range PIR detection angle	4-6 meters (installation height 2.6 - 3 meters) 110° from the ceiling down
<b>Operating and display elements</b>	Programming button Indicator LED TIS bus	For assignment of the physical address Blue or Red LED (optional) TIS Protocol messages and commands
<b>Functions</b>	Logic/ Timers IR Code memory / Flags Security Function IR receiver	32 Timers and Logic conditions 250 IR code memory & flags Away, Night, Day, fire alarm setting 8 buttons function
<b>Weight</b>	Without packaging	0.06 KG
<b>Dimensions</b>	Width × length × height	92mm × 39 mm × 92mm
<b>Housing</b>	Materials Casing color Base color IR window cover IP rating	ABS anti fire / PC anti fire Gray White Black Transparent White IP 20
<b>Temperature range</b>	Operation Storage Transport	-10...60°C -20...50°C -25...75°C
<b>Air humidity</b>		<85% non-condensing



BARCODE (UPC-A)





### Read Instructions

We recommend that you read this Instruction Manual before installation.



### Mounting Location

Install in a dry, indoor area with a suitable temperature and humidity range.



### Safety instructions

Electrical equipment should only be installed and fitted by electrically skilled persons. Failure to follow the instructions may cause damage to the device and other hazards. These instructions are an integral part of the product and must remain with the end customer.



### Data Cable

Use screened stranded RS485 data cable with four twisted pairs. Configure devices in a "Daisy Chain."

**Do not cut or terminate live data cables.**



### Programming

Advanced programming requires knowledge of the TIS Device Search software and instruction in the TIS advanced training courses.



### Warranty

There is a two-year warranty provided by law. The hologram warranty seal and product serial number are available on each device.



### Simple Installation

You can use 2 screws to install this sensor on the ceiling



 **INSTALLATION STEPS**

**1** » Turn off TIS power supply.

**2** » Rotate the sensor cover to open it.

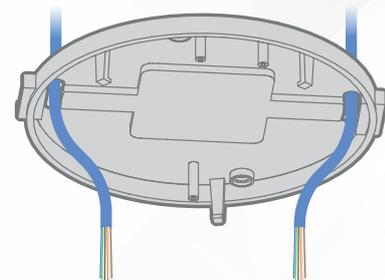
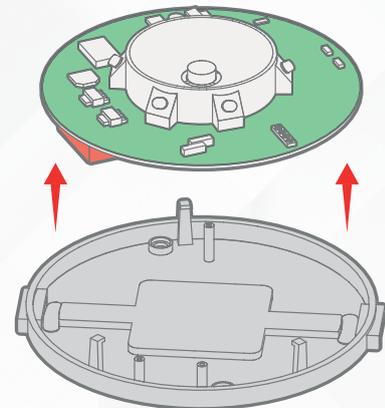
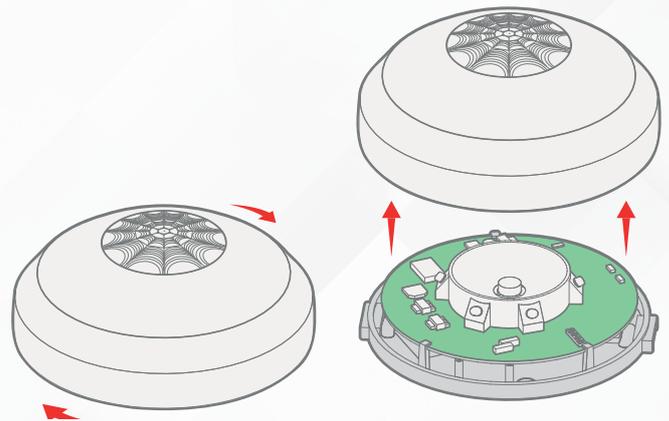
**3** » Remove the PCB from the holding pins.

**4** » Open the wire holes, and insert the TIS-BUS cable and other 3<sup>rd</sup>-party digital input (dry contact) cable in the sensor base.

For more information on how different types of 3<sup>rd</sup>-party sensors connect to this module, please refer to the sensor's connection diagram file.

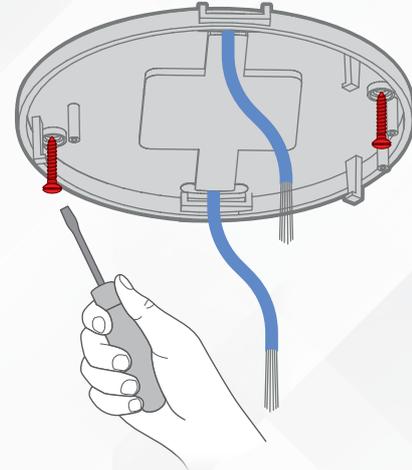


**WARNING! HIGH VOLTAGE**

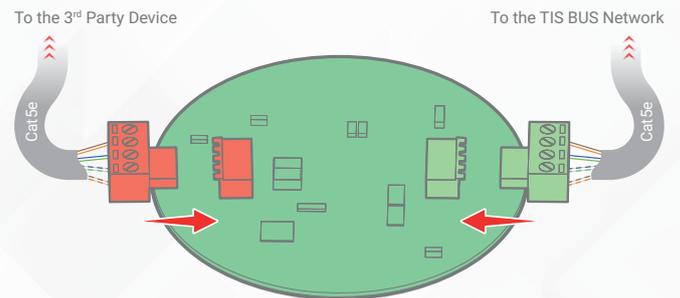


**INSTALLATION STEPS**

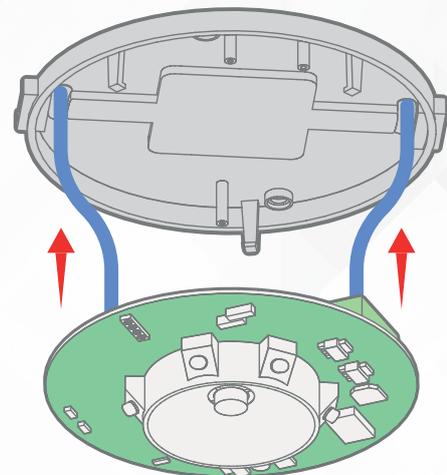
**5** Mount the sensor base on the ceiling with 2 screws.



**6** Connect the cables to the 4-pin terminals and Insert the terminals in the board. Make sure to connect the BUS cable to the green connector and the dry contact cable to the red connector.

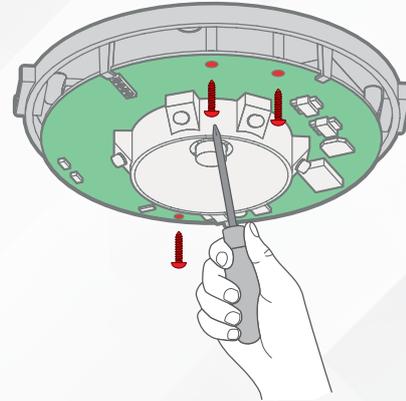


**7** Secure the board inside the sensor base using the base pins.

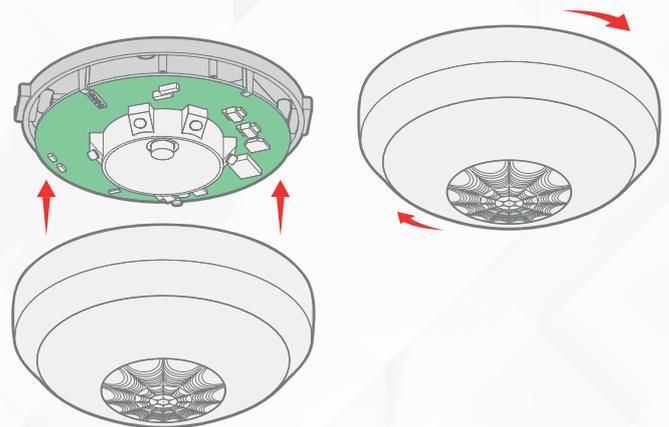


 **INSTALLATION STEPS**

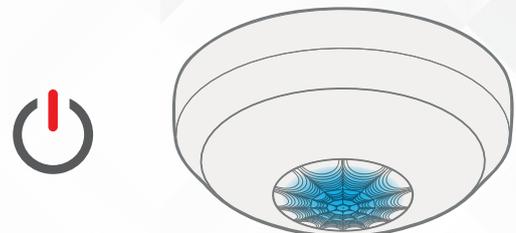
**8** » Install the extra 3 screws (optional).



**9** » Close the cover of the sensor.



**10** » Turn the power supply ON. The sensor LED should turn on.



 **TROUBLESHOOTING**



**The sensor's LED blinks rapidly.**

**Reason:** The sensor address conflicts with another device in the TIS network. You need to press and hold on the sensor PCB PRG button for 6 seconds so that the sensor can get a new address.



**The sensor's LEDs do not turn ON, and the device is not powered.**

**Reason:** The TIS 24V power supply is not connected to the TIS-BUS.



**The sensor fails to control the device channels.**

**Reason 1:** The TIS-BUS connection has a problem, or the wire has a short.

**Reason 2:** The programming address is faulty.



**The sensor LED is always off, but it works fine.**

**Reason:** LED is disabled in the software.



**The sensor's sensitivity is not strong.**

**Reason 1:** The sensitivity level is reduced in the software.

**Reason 2:** The ceiling where the sensor is installed is not high enough.