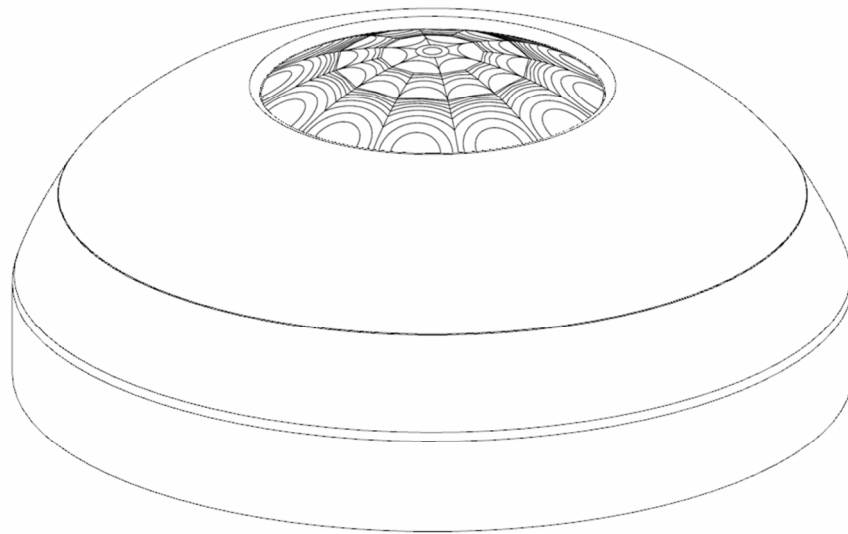# TIS Energy Servant
10 Functions Controller
Model: ES-10F-CM
Data Sheet Rev 1.1

Safety instructions
Electrical equipment may only be installed and fitted by electrically skilled persons.
Failure to observe 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.

Basic information
This device is a product of the TIS system. It is a ceiling mount device with 10 saving energy functions which can be controlled and communicate with other devices in the network by TIS protocol messages, technical knowledge obtained in TIS training courses is a prerequisite to proper understanding how to install device. Advanced Programming knowledge about software obtained in the advanced training courses.

Intended use
Saving energy and security, e.g. light on/off, control air condition on/off, Digital input, Lux meter, TV control.

Product Characteristics

Inputs	PIR motion sensor	Dual element pyro-electric ceramic
	Digital input. Open / Close	2 Channels
	Length of connected wire to DI	< 350 meter
	Light intensity sensor	0 – 8000 Lux meter
	IR receiver	TIS Infrared code receiver
	Temp sensor	Resistance Temp sensor
Outputs	Infrared transmitters	6 probes to cover 360 degree
	DC Output	12 V DC / 50 mA
TIS Bus	Number of devices on 1 line	Max. 64
	Bus voltage	12-32 V DC
	Current consumption	<15 mA / 24 V DC
PIR Detection	PIR range	4-6 meters (installation height 2.6 - 3 meters)
	PIR detection angle	110° from the celling down
Protection	Protection	Reverse Polarity Protection
Reaction time		approx. 20ms
Mounting	Celling mount	by 2 screws on the base of the sensor
Connection terminal	Data / bus	terminal connector 0,25…2mm2
Operating and display elements	Programming button	For assignment of the physical address
	Indicator LED	Blue or Red LED (optional)
	TIS bus	TIS Protocol massages and commands
	Upgrading	1 X mini USB for up to date upgrading.
Functions	Logic/ Timers	32 Timers and Logic conditions
	IR Code memory / Flags	250 IR code memory and Flags
	Security Function	Away, Night, Day, fire alarm setting
	IR receiver	8 buttons function
Weight	Without packaging	0.06 KG
Dimensions	Width x length x height	92mm x 92mm x 39 mm
Housing	Materials	ABS anti fire / PC anti fire
	Casing color	Gray White
	Base color	Black
	IR window cover	Transparent White
Temperature range	Operation	-10…60°C
	Storage	-20…50°C
	Transport	-25…75°C
Air humidity		<85% non-condensing

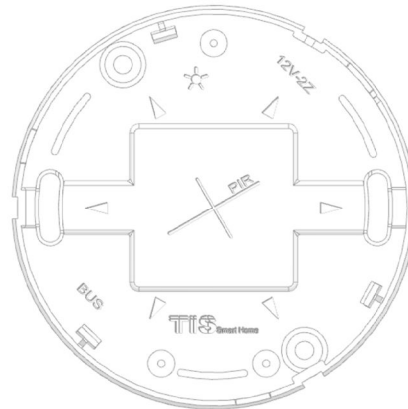|	
Installation Tips BUS, 12V-2Z Position Check your wires positions before installing the base. Locate the TIS bus cable to be near its hole as well as the 2 zones 12V cable. PIR angles are different in detection strength, as you see in the base there is PIR instruction . For best installation please install the sensor base in the direction of the longer row to cover more area in your room.	
IR Arrows There is 6 Arrows or triangles that indicate the direction of IR transmitters. Lux meter The Sun logo will indicate to the light intensity sensor position.	

Wiring diagram

Green Connector (TIS BUS)

Warning: Please turn off the power supply before any installation

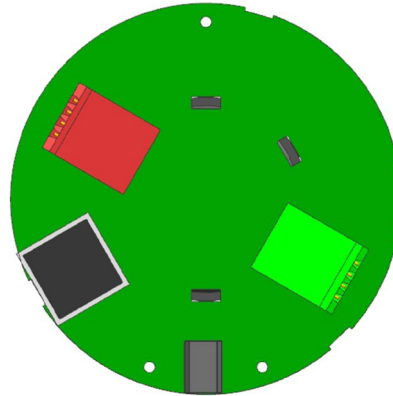By using the Cat5e cable to connect to TIS bus 4 terminals (24V,D+, D-, GND)
Recomanded UTP cat5e color connection
24V – Orange
D+ – Blue
D- – White Blue
GND – White Orange

Red Connector:
It have the 2 digital input Z1,Z2 , with the 12V output terminal, Com Terminal is common for both digital input and 12V output.

Warranty
We provide a warranty as provided for by law.
Product serial number is provided by each device.
Please send the description of the defect with Product S/N to our dealer network.

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