# TITT CIS-N (10-20 A)

Solar Charge Controller w/ Lighting Control





## **Product Introduction**

The CIS-N was especially developed to deliver optimum performance in industrial PV systems in demanding environments. It features 4-stage, series-switching PWM charge regulation and is fully programmable via infrared devices (CIS-CU or MXI-IR and CISCOM software).

The CIS-N includes convenient and advanced lighting control, which allows the user to decide whether they want the automatic lighting control with LED dimming to be time or low-voltage activated.

## **Product Features and Functions**

- Works in 12 or 24 V systems (auto recognition)
- Fully programmable charge/discharge program via infrared (CIS-CU or MXI-IR and CISCOM software)
- Timed and low-voltage dimming settings
- Dimming interface for external LED drivers
- Fully potted (IP68) aluminum housing
- UL1741/Class I Div. 2 certified
- Infrared-programmable load timing feature with dimming, ideal for lighting systems
- · Modifications available upon request
- Compatible with Lithium batteries (no BMS communication)

# **Optional Accessories**

# CIS-CU

• Infrared remote control programming accessory

#### MXI-IR

 Infrared to USB programming accessory and interface to CISCOM software

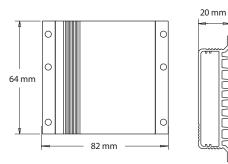
#### The CIS-N is NRTL certified

UL listed to UL1741 and CSA C22.2 No. 107.1-16. UL listed to ANSI/ISA 12.12.01 and CSA C22.2 No. 213-15.



E497008 Photovoltaic Charge Controller E490503 Photovoltaic Charge Controller for use in Hazardous Locations Class 1, Div. 2 Groups A-D

# **Technical Drawing**



## **Technical Data**

System Voltage   12 / 24 V auto recognition	Туре	CIS-N-10	CIS-N-20
Float Charge  Main Charge  14.4 / 28.8 V (25 °C), 0.5 h daily  14.4 / 28.8 V (25 °C), 2 h activation: battery voltage < 12.3 / 24.6 V  14.8 / 29.6 V (25 °C), 2 h activation: battery voltage < 12.1 / 24.2 V (at least every 30 days)  Deep-Discharge Protection  11.0-12.0 / 22.0-24.0 V (by SOC) 11.0-11.9 / 22.0-23.8 V (by voltage)  Reconnect Level  12.8 / 25.6 V  Overvoltage Protection  10.5 / 21 V  Min. Operating Voltage  Range of Battery Voltage for Operation  Load Output Voltage Range  11.0 to 15.5 / 22.0 to 31.0 Vdc  Max. PV Panel Voltage  30 V / 50 V  Temperature Compensation  -25 mV/K (12 V), -50 mV/K (24 V)  Idle Self-Consumption  Grounding  Common Negative  Ambient Temperature  4,000 m above sea level  Battery Type  Lead acid (gel, AGM, flooded) adjustable, Lithium  Wire Length  20 cm / 7.9 in  Wire Cross Section  2.5 mm² (AWG 13)  Dimensions (WxHxD)  82 x 64 x 20 mm / 3.2 x 3 x 1 in  Weight  0.15 kg / 0.33 lbs  Ingress Protection  IP68  CE compliant, RoHS compliant, UL1741 listed,	System Voltage	12 / 24 V auto recognition	
Main Charge $14.4/28.8  V (25^{\circ}C), 0.5  h  daily$ Boost Charge $14.4/28.8  V (25^{\circ}C), 2  h$ activation: battery voltage < $12.3/24.6  V$ Equalization Charge $14.8/29.6  V (25^{\circ}C), 2  h$ activation: battery voltage < $12.1/24.2  V$ (at least every 30 days)Deep-Discharge Protection $11.0-12.0/22.0-24.0  V  (by SOC)$ $11.0-11.9/22.0-23.8  V  (by voltage)$ Reconnect Level $12.8/25.6  V$ Overvoltage Protection $15.5/31.0  V$ Undervoltage Protection $10.5/21  V$ Min. Operating Voltage $9  V/18  V$ Range of Battery Voltage for Operation $9.0  to  15.5  V/18.0  to  31.0  V dc$ Load Output Voltage Range $11.0  to  15.5/22.0  to  31.0  V dc$ Max. PV Panel Voltage $30  V/50  V$ Temperature Compensation $-25  mV/K  (12  V), -50  mV/K  (24  V)$ Idle Self-Consumption $5-8  mA/6-10  mA$ GroundingCommon NegativeAmbient Temperature $-40  to +60  ^{\circ}C$ Max. Altitude $4,000  m$ above sea levelBattery TypeLead acid (gel, AGM, flooded) adjustable, LithiumWire Length $20  cm/7.9  in$ Wire Cross Section $2.5  mm^2  (AWG  13)$ Dimensions (WxHxD) $82 \times 64 \times 20  mm/3.2 \times 3 \times 1  in$ Weight $0.15  kg / 0.33  lbs$ Ingress ProtectionIP68CertificatesCE compliant, RoHS compliant, UL1741 listed, ANSI/ISA $12.12.01  listed$	Max. Charge/Load Current	10 A	20 A
Boost Charge    14.4 / 28.8 V (25 °C), 2 h activation: battery voltage < 12.3 / 24.6 V	Float Charge	13.8 / 27.6 V (25 °C)	
activation: battery voltage < 12.3 / 24.6 V    14.8 / 29.6 V (25 °C), 2 h   activation: battery voltage < 12.1 / 24.2 V (at least every 30 days)    Deep-Discharge Protection   11.0-12.0 / 22.0-24.0 V (by SOC)     11.0-11.9 / 22.0-23.8 V (by voltage)   Reconnect Level   12.8 / 25.6 V     Overvoltage Protection   15.5 / 31.0 V     Undervoltage Protection   10.5 / 21 V     Min. Operating Voltage   9V / 18 V     Range of Battery Voltage for Operation   2.5 w / 18.0 to 31.0 Vdc     Load Output Voltage Range   11.0 to 15.5 / 22.0 to 31.0 Vdc     Max. PV Panel Voltage   30 V / 50 V     Temperature Compensation   -25 mV/K (12 V), -50 mV/K (24 V)     Idle Self-Consumption   5-8 mA / 6-10 mA     Grounding   Common Negative     Ambient Temperature   -40 to +60 °C     Max. Altitude   4,000 m above sea level     Battery Type   Lead acid (gel, AGM, flooded) adjustable, Lithium     Wire Length   20 cm / 7.9 in     Wire Cross Section   2.5 mm² (AWG 13)     Dimensions (WxHxD)   82 x 64 x 20 mm / 3.2 x 3 x 1 in     Weight   0.15 kg / 0.33 lbs     Ingress Protection   IP68     Cettificates   CE compliant, RoHS compliant, UL1741     Isisted, ANSI/ISA 12.12.01 listed	Main Charge	14.4 / 28.8 V (25 °C), 0.5 h daily	
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Warranty 5 years	Certificates		
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