

Accessory: Rapid Shut-down System (RSS)



Features:

- Optional for Mario M series and E series
- With PLC, no additional wire needed for control
- Comply with NEC 2014, Article 690.11
- Suit for string level shut-down
- NEMA 4X protection
- Support rack mount or solar module mount
- Support series connection up to 2 sub strings
- Support parallel strings, up to 20A
- With high voltage DC relay, high reliability

RATINGS

Delta Part Number	GPI00012103
Max. system voltage	600V DC
Rated input current	20A DC
Rated input operating voltage	50 ~ 550V DC
Rated input operating current	0 ~ 20A DC
Fuse Rating	NA
Max. number of controlled circuits	1
Self-power consumption	<4W

GENERAL DATA

L x W x D	7.9 x 6.0 x 2.1 inches
Weight	3.2 lbs.
Cooling	Natural Convection
DC input/output connectors	Amphenol Helios H4 or MC4 PV Connector
Enclosure material	Diecast Aluminum
Operating temperature	- 40 ~ 158 °F
Humidity	0 ~ 100%
Max. operating altitude	2000m above sea level

STANDARD COMPLIANCE

Enclosure protection rating	Type 4X
Safety	UL 1741, UL 1741 CRD PVRSS, CSA C22.2 No. 107.1-01
Rapid shutdown	NEC 2014 Article 690.12
EMC	FCC Part 15 Class B

Accessory: Auto Transfer Switch (ATS)



Features:

- Optional for Mario M series and E series
- Auto grid detection, no additional communication wire needed for control
- Short transferring time (<5.0s)
- Transfer 240V inverter output to 120-120 split output
- Up to 24A for each phase
- UL1741, FCC certificated

OUTPUT - AC (LOADS/GRID)

Delta Part Number	GPI00010108
Max AC Power Output	7680 W
AC Output Voltage Min-Nom-Max (L-L)	211-240-264 V
Maximum Continuous Output Current @240V	32 A
Charge Battery from AC (if Allowed)	Yes
Typical Nighttime Power Consumption	<5 W

OUTPUT - AC (BACKUP MODE)

Rated AC Power Output	5000 W
Max AC Power Output - Surge	7680 W for 10sec
AC Output Voltage Min-Nom-Max (L-N)	105-120-132 V
AC Frequency Min-Nom-Max	55 - 60 - 65 Hz
Max Continuous Output Current per Phase @120V	21 A
Split Phase Imbalance(@Rated Power)	21 A
Automatic Switchover Time	<5 Sec

GENERAL SPECIFICATION

Operating Temperature Range	-13 ~ 131°C
Humidity	0 ~ 95%
Max. Operating Altitude	3000 m
Installation	Wall Mounting
Enclosure Protection Rating	Type 4

MECHANICAL DESIGN

Size L x W x D	15 x 9.2 x 5.9 inches
Weight	30.9 lbs
Cooling	Natural Convection
Compatible Wiring Gauge	AWG 10 ~ AWG 6
Certification	UL 1741, CSA 22.2 No. 107-01

Accessory: RSD with DC/DC (D400/D800)



Features:

- Up to 25% more energy
- Superior efficiency 99.1 %
- Specifically designed to work with inverter base on patented design
- Module level voltage shutdown, ensure safety of installer and firefighter
- Support module level rapid shutdown for NEC 2017 Article 690.12

INPUT RATINGS

Delta Part Number	GPI04210204	GPI08210208
Maximum Input DC Power	375 W	750 W
Maximum Input Voltage	60 VDC	120 VDC
MPPT Operating Range	15 - 60 VDC	15 -120 VDC

OUTPUT RATINGS

Maximum Output Voltage	65 VDC	120 VDC
Maximum Output Current	15 A	
Output Voltage During Standby	1 VDC	

EFFICIENCY

Maximum Efficiency	99.1 %	99.1 %
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GENERAL DATA

Enclosure Size L x W x D	3.5 x 2.3 x 0.8 inches	4.7 x 2.3 x 0.8 inches
Weight (including cables)	1.43 lbs (0.65 kg)	1.8 lbs (0.8 kg)
Enclosure Material	Metal	Metal
Enclosure Protection Rating	Type 6P	Type 6P
Operating Temperature	- 40 ~ 185 °F	- 40 ~ 185 °F
Maximum Operating Altitude	10000 ft	10000 ft

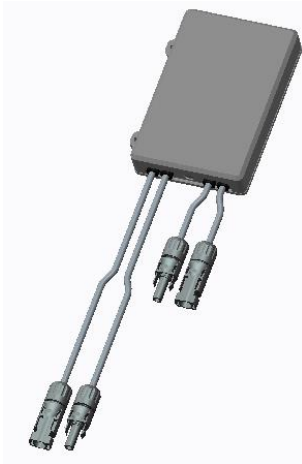
STANDARD COMPLIANCE

Safety	UL 1741	UL 1741
EMC	FCC Part 15 Class B	FCC Part 15 Class B

INSTALLATION SPECIFICATIONS

String Length	7-25 Optimizers	4-13 Optimizers
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Accessory: In-line RSS



Features:

- Automatic function test upon startup, ensure safety of firefighter and maintainer
- Enclosure protection NEMA4X and glue filling, enable the product to work reliably
- Compliant with 2017 NEC Article 690.12 Rapid Shutdown
- No need installation for every PV Module, make PV system more cost effective for specially case

INPUT RATINGS

Delta Part Number	GPI00010110
Max. System Voltage	600 VDC
Rated Input Operating Voltage	6 ~ 60 VDC
Number of Input Circuit	1
Rated Input Current	12 A

OUTPUT RATINGS

Rated Output Current	12 A
Control Signal Method	PLC Signal

GENERAL DATA

Enclosure Size L x W x D	5.83 x 4.29 x 1.03 inches (148 x 109 x 26 mm)
Weight	2 lbs (1 kg)
Cooling	Natural Convection
DC Input/Output Connectors	MC-4 PV Connector
Enclosure Material	Plastic
Operating Temperature	- 40 ~ 185 °F (-40 ~ 85 °C)
Storage Temperature	- 40 ~ 185 °F (-40 ~ 85 °C)
Humidity	0 ~ 100%
Max. Operating Altitude	2000m above sea level
Self Power Consumption	<1.5W
Standard Warranty	10 years

STANDARD COMPLIANCE

Enclosure Protection Rating	Type 4
Safety	UL 1741, CSA UC 22.2 107-1
Rapid Shutdown	NEC 2017 Article 690.12
EMC	FCC Part 15 Class B

Accessory: Revenue Grade Meter



Features:

- Optional for Mario M series and E series
- Embedded, pre-installed in wiring box
- Meet ANSI C12.20, class 0.5
- Suit for US 208/240 V grid
- With bi-directional power & energy measurement for

GENERAL SPECIFICATION

Delta Part Number	5029901700
Accuracy Class	ANSI C12.20 0.5
Rated Voltage(Un)	208V/240V
Extended voltage range	88%~110%
Rated Current(In)	60A
Rated Frequency(fn)	60Hz
Pulse Constant(kh)	1000 impulses /kWh
Serial Reporting Interval	5 seconds

Accuracy

Actual Active Energy	Within+/-0.5%
Starting Current	0.02A
Creeping Current	Less than 5mA
Insulation Strength	6kV for 1 min

MECHANICAL DESIGN

Size L x W x D inches (L x W x D mm)	2.9 x 2.2 x 1.7 inch
Weight	0.22 lbs
Protection Class	IP 21
Operation Temperature Range	-40 to +176 °F
Humidity	0% to 95% non-condensing

Accessory: Energy Meter



Features:

- Optional for Mario E series
- Up to 2 meters with different ID for storage systems
- DIN rail installation in main panel
- With 2 bayonet fitting CT
- Suit for US 208/240 V, LN voltage 120V
- UL 1741 certified
- Meet ANSI C12.20, class 1.0

GENERAL SPECIFICATION

Delta Part Number	5020532500
Accuracy Class	ANSI C12.20 0.5
Rated Voltage(L1N and L2N)	120 V
Extended voltage range	88%~110%
Rated Current(In)	With two 200A rated CT
Rated Frequency(fn)	60Hz
Pulse Constant(kh)	1000 impulses/kWh
Serial Reporting Interval	5 seconds
Meter Communication Interfaces	RS 485
Response Time	≤1

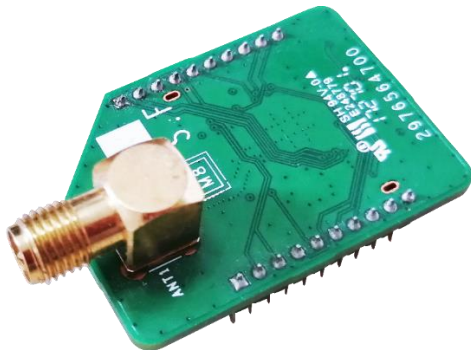
Accuracy

CT Rated RMS Current	200A
1%-100% of CT Current	1%
cu	0.02A
Creeping Current	Less than 5mA
Insulation Strength	6kV for 1 min

MECHANICAL SPEC

Size L x W x D	3.5 x 2.2 x 2.1 inches
Weight	0.45 lbs
Protection Class	IP30
Operation Temperature Range	-22 to +131 °F
Mounting Type	DIN-Rail, 35mm
CT Dimension	2.8 × 2.2 × 2.1 inches (H×W×D)
Certification	UL 1741

Accessory: ZigBee Communication Module



Features:

- Optional for Mario both M and E series
- Secured private wireless network
- Wide distance range
- Embedded, pre-installed in wiring box
- Support varies ZigBee network
- With FCC certification

GENERAL SPECIFICATION

Delta Part Number	5042067400
Operating Frequency Band	ISM 2.4 GHz
Support Network Topologies	point-to-point, point-to-multipoint, peer-to-peer, and Mesh
Channels	11 to 26
Addressing Options	PAN ID and Addresses, Cluster IDs and Endpoints

PERFORMANCE

Indoor/Urban Range	Up to 90m
Outdoor/RF Line-of-sight Range	Up to 3200m
Transmit Power	60mW(+18dBm)
Receiver sensitivity	-101dBm
RF Data Rate	250kbps
Serial Interface Data Rate	9600bps

MECHANICAL SPEC

Size L x W inches (L x W mm)	1.1 x 1.7 inches
Weight	0.02 lbs
Operation Temperature Range	-40 to +185 °F
Humidity	5% to 95% non-condensing
Antenna	SMA
FCC ID	2AMVP-VCB601

Accessory: Ethernet & Wi-Fi Communication Module



Features:

- Optional for Mario both M and E series
- Embedded, pre-installed in wiring box
- Support 802.11 b/g/n, 2.4GHz
- High speed
- With FCC certification

Wi-Fi SPEC

Delta Part Number	5042106700
Standard	2.4GHz 802.11b/g/n compatible
Security	802.11i (WPA, WPA2)
Working Mode	Client
Data Rate	up to 50Mbps (Theoretical Value)
Antenna	SMA, support one Transmit and one Receive path

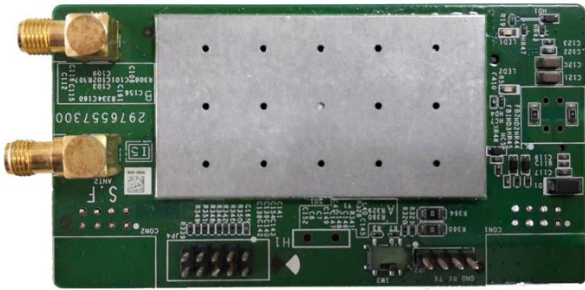
Ethernet SPEC

Standard	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseTX
Data Rate	10/100 Mbps, Auto MDI/MDIX

MECHANICAL SPEC

Size L x W inches (L x W mm)	3.4 x 1.6 inches
Weight	0.045 lbs
Humidity	5% to 95% non-condensing
Certification	FCC

Accessory: Wi-Fi & LTE CAT-M Communication Module



Features:

- Optional for Mario both M and E series
- Embedded, pre-installed in wiring box
- Support 802.11 b/g/n, 2.4GHz
- High speed
- FCC certification pending

CELLULAR NETWORKS

Frequencies	Cat M1: LTE FDD: B2/B4/B12/B1E GPRS:3850/900/1800/1900Mhz
Speed	Cat M1:Max. 300Kbps (DL), Max. 375Kbps (UL)

Wi-Fi SPEC

Standard	2.4GHz 802.11b/g/n compatible
Security	802.11i (WPA, WPA2)
Working Mode	Client
Data Rate	up to 150Mbps (Theoretical Value)
Antenna	Support One Transmit and one Receive path (1T1R)

GENERAL SPEC

Size L x W inches (L x W mm)	3.4 x 1.6 inches
Operation Temperature Range	-40 to +158 ° F
Humidity	5% to 95% non-condensing
Antenna	SMA
Certification	FCC pending

Delta Electronics (Americas), Ltd.

46101 Fremont Blvd, Fremont, CA 94538
 Sales Email: Inverter.Sales@deltaww.com
 Support Email: Inverter.Support@deltaww.com
 Sales Hotline: +1-877-440-5851 or +1-626-369-8021
 Support Hotline: +1-877-442-4832
 Support (Intl.): +1-626-369-8019 Monday to Friday from 7am to 5pm PST (apart from Holidays)

