



**Rayleigh
Instruments**

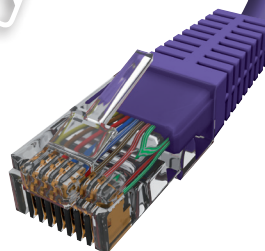
• Quality Products • Great Prices



Save Time, Save Money

• **Proven** • **Safe** • **Reliable**

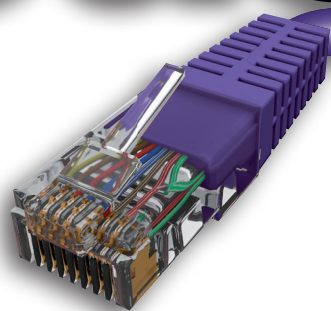
The original and market leading plug & play metering system



Save Time, Save Money

easywire®

Patent Pending



“ Labour savings of around 90% are achieved when compared to traditional wiring methods ”

Thousands of systems now successfully working worldwide.



All our Easywire three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.

Safer by design...

This system is safer than using traditional current transformers because Easywire transformers incorporate the resistive shunts usually located within the power meter. This means that the secondaries are always loaded, therefore eliminating the possibility of dangerously high voltages developing during open circuit conditions.

Additionally, other fitted components provide redundancy in the unlikely event that the resistor should fail.

This allows the meter to current transformer lead to be disconnected without the need for secondary shorting terminals, again saving money and reducing down time.



A unique concept that dramatically reduces the wiring/installation time of multifunction power meters and current transformers.

These savings are made possible due to the innovative design of both the current transformers and the meters, which allow plug in connectors to be used for both current and voltage input/output. An RJ45 lead is used for connecting between the three phase current transformer and meter, and 'readymade' plug in leads are used for the voltage input.

The meters are provided with both input and output voltage connections which allow up to 32 meters to be daisy chained to a common supply voltage via the first meter.

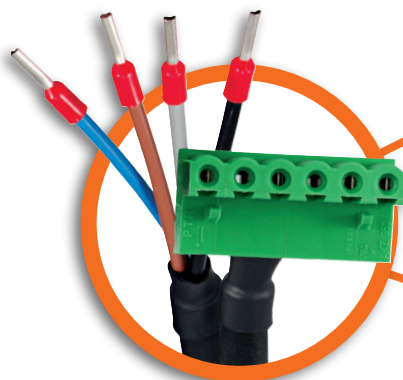
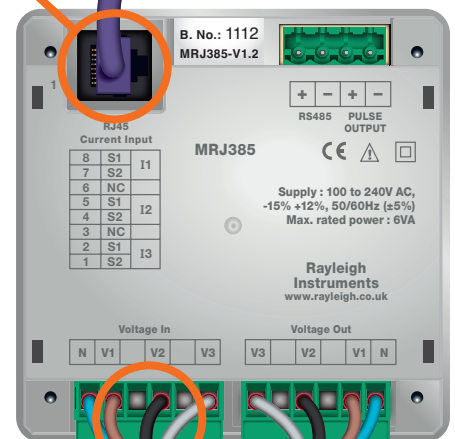
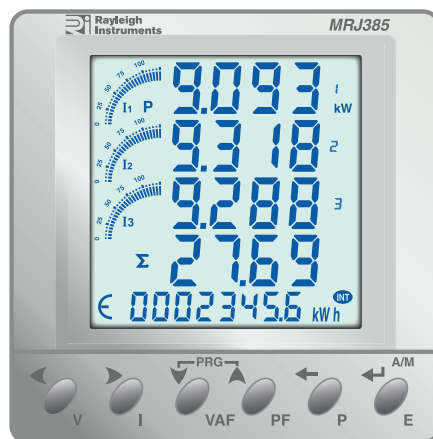
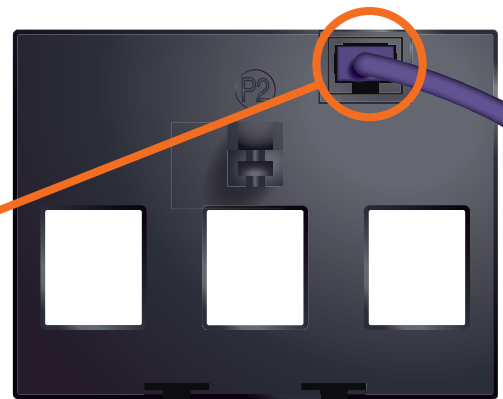
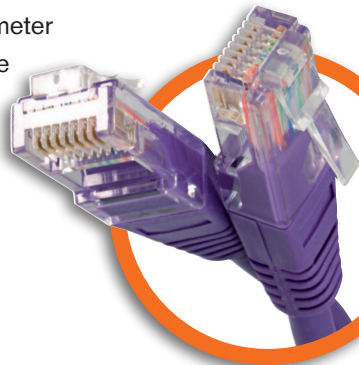
- Substantial labour savings.
- Elimination of wiring errors.
- Increased safety. Internal circuitry limits high voltages if current transformer is disconnected under load.
- No need for current transformer shorting terminals.
- Proven design - successfully in service.
- Simple plug-in connection for both current and voltage inputs/outputs.
- Reduced testing time.
- Choice of 5 three phase current transformer frame sizes.
- Choice of 3 meter designs.
- Less qualified installers required.
- Fully EMC tested and CE certified.
- Supplied with or without cables to suit your requirements.

Save Time, Save Money...

Panel Mounting

Connect your current transformer...

Plug one end of the RJ45 lead into the multifunction power meter and the other end into the three-phase current transformer and you're done - it's that simple.



Power-up your meter...

Plug the ready-made 'supply' lead connector into your meter. Connect the other, ferrule tipped, ends to the supply, not forgetting to use the correct fuses, and you're done.

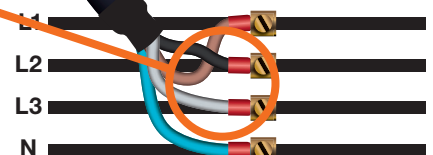
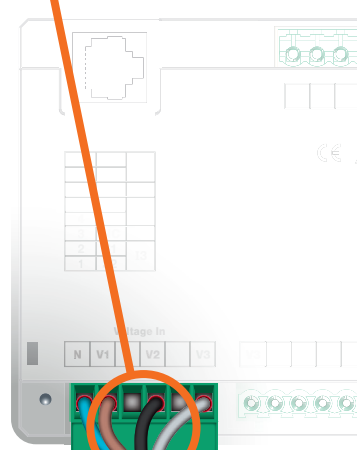
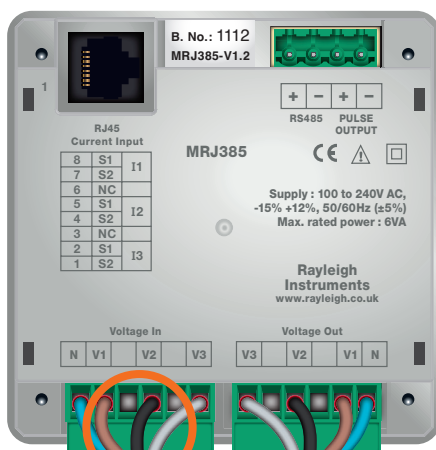
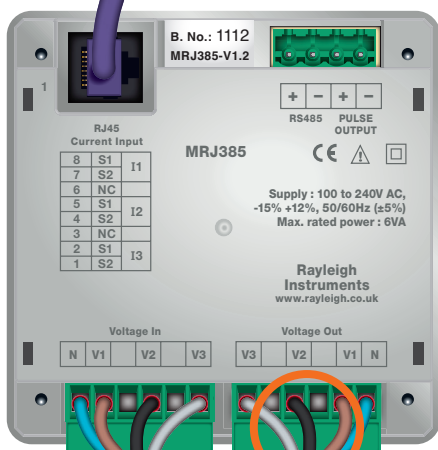
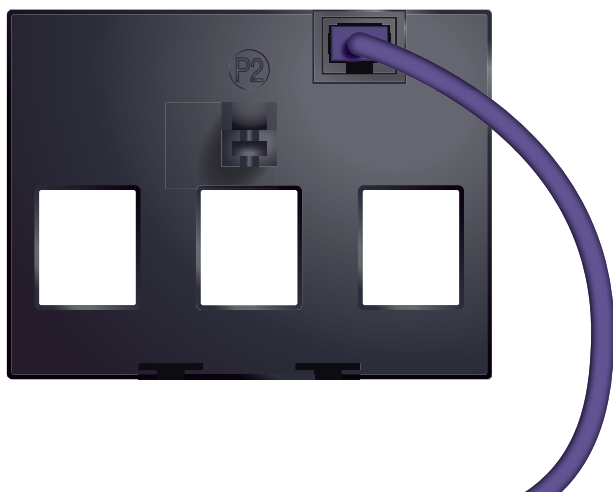


Illustration Only - device should be correctly fused.

Daisy-chain up to 32 Meters...

Power up to 32 Energy Meters from a single power source.

32



More than one meter?...

Plug the ready-made 'linking' lead connector from your first meter to your second meter.

Save Time,
Save Money...



Now with THD and
Single Phase Mode Selection

Available in Grey or Black

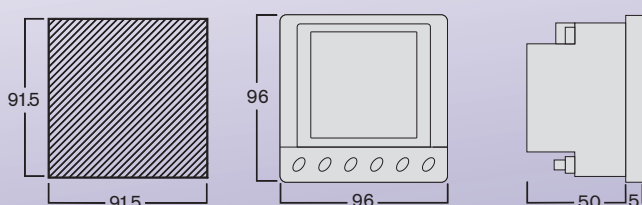


- 96 x 96mm Flush mounting
- Single phase or 3 phase 4 wire network balanced or unbalanced load
- Built in energy pulsed output or with pulsed output and RS485 (modbus)
- Backlit LCD display with bargraph current indication on every page
- Automatic or manual scrolling display

- 330mV current transformer input
- Active energy class 1 (EN62053-21)
- Reactive energy class 2 (EN62053-23)
- Programmable VT ratio
- 3-phase: 140...460Vac measured voltage
- Single phase: 80...265Vac measured voltage
- THD up to 31st harmonic for voltage and current

- Self supplied auxiliary
- Programmable CT ratio 5 to 10,000A
- Frequency 45/65Hz
- Wide range of measured parameters (see table below)
- Selectable CT phase correction allows reversal of L1 and L3
- Weight 230g

Dimensions Diagram (mm)



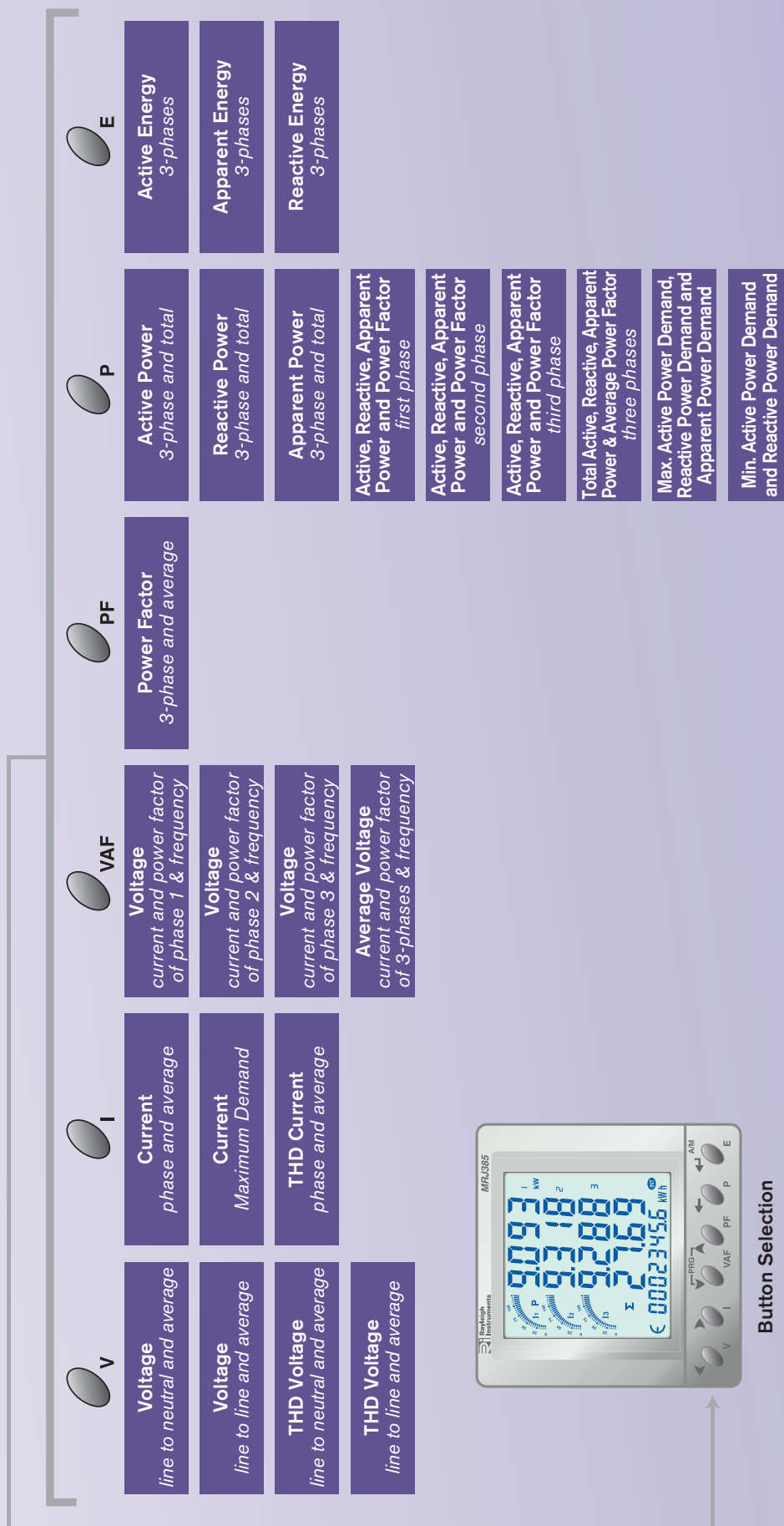
Please allow space at the rear of the meter for cable connections.

How to Order / Model Reference

Model	MRJ385	-G
Housing Colour	Black meter housing	-B
	Grey meter housing	-G

Mating halves of connectors and leads NOT supplied with meter. See Essential Extras and Accessories on page 17.

Function Diagram

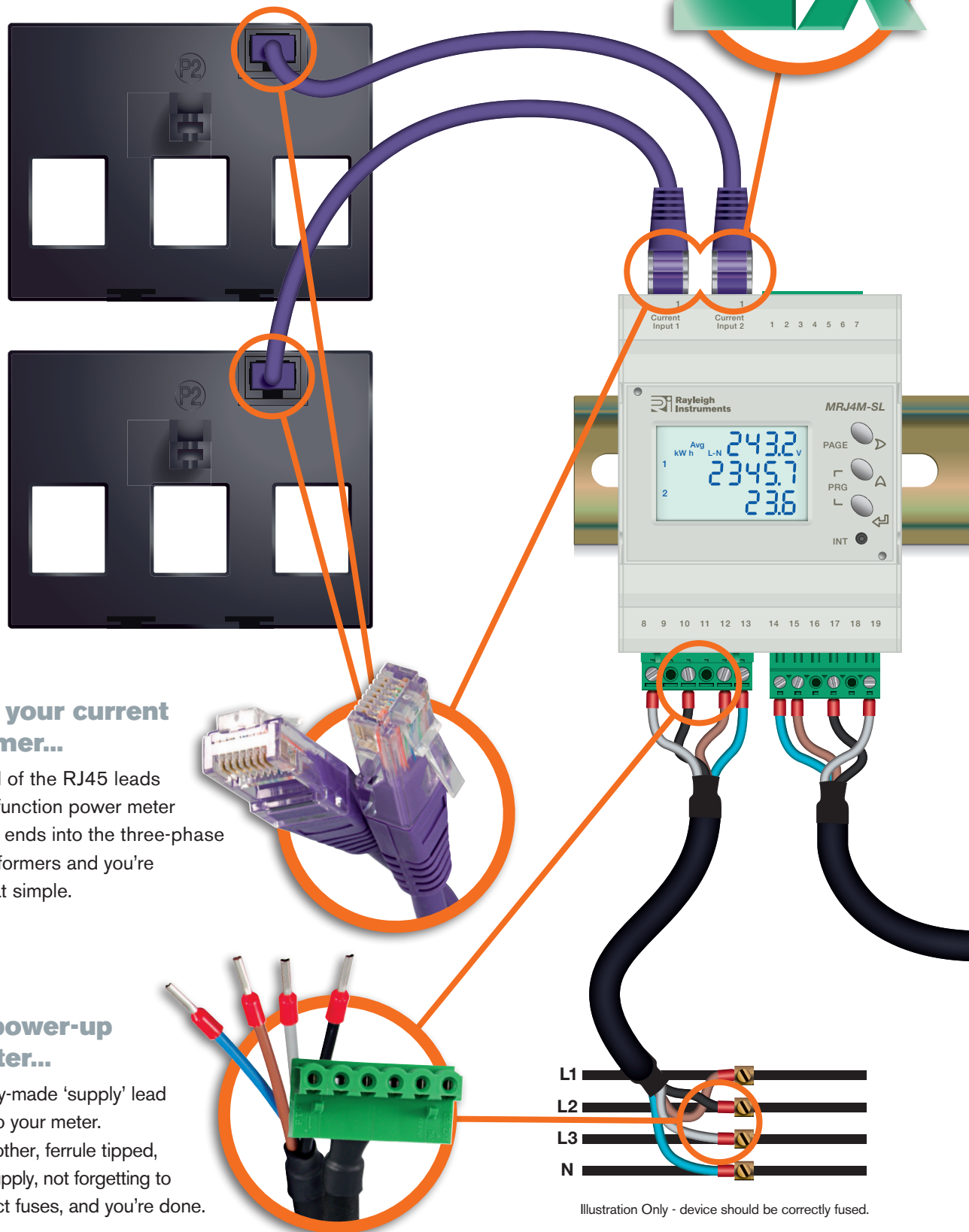


DIN Rail Mounting - Split Load

Two inputs into one meter...

The split load meter allows the connection of two, three phase current transformers to one meter. Typical applications include split load distribution boards.

2x



Connect your current transformer...

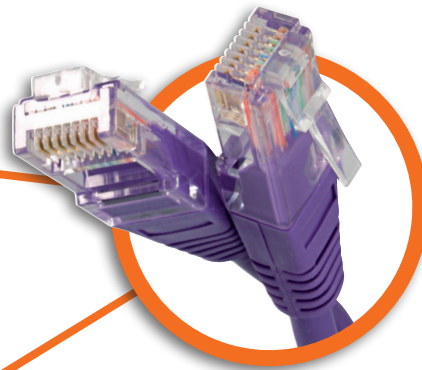
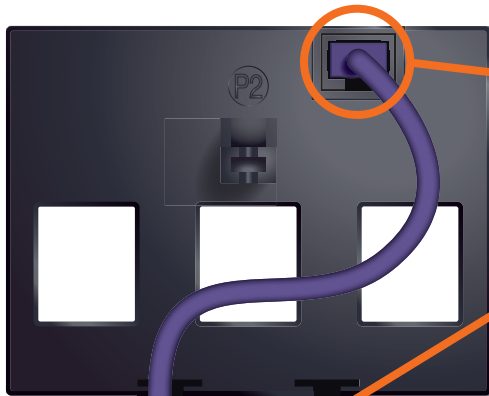
Plug one end of the RJ45 leads into the multifunction power meter and the other ends into the three-phase current transformers and you're done - it's that simple.

Plug to power-up your meter...

Plug the ready-made 'supply' lead connector into your meter. Connect the other, ferrule tipped, ends to the supply, not forgetting to use the correct fuses, and you're done.

Illustration Only - device should be correctly fused.

Single Load



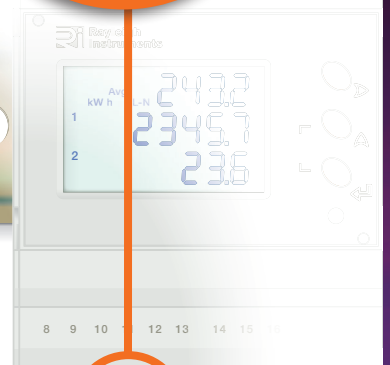
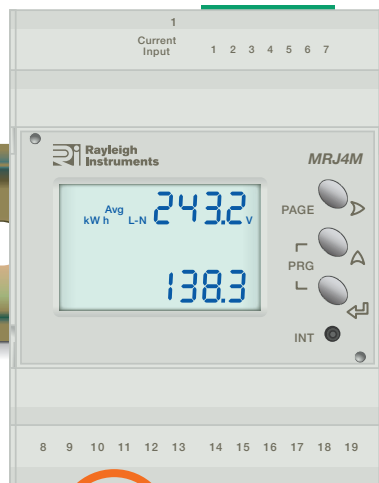
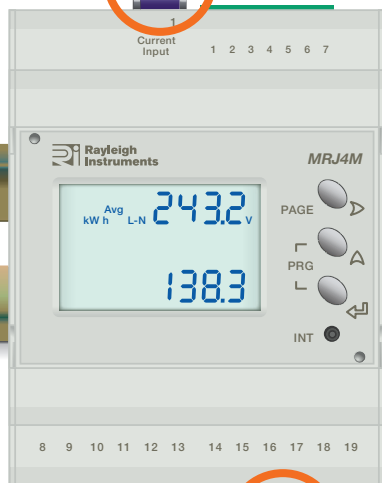
Connect your current transformer...

Plug one end of the RJ45 lead into the multifunction power meter and the other end into the three-phase current transformer.

Daisy-chain up to 32 Meters...

Power up to 32 Energy Meters from a single power source.

32



More than one meter?...

Plug the ready-made 'linking' lead connector from your first meter to your second meter.



Save Time, Save Money...

MRJ4M

easywire - Multifunction Power Meter – Single CT Connection DIN Rail Mounting - LCD Display



- 4 Module DIN rail mounting
- Single phase or 3 phase (4 wire) network balanced or unbalanced load
- Built-in energy pulse output and RS485 MODBUS communication
- Wide range of measured parameters (see table below)
- High quality backlit LCD display
- 330mV current transformer input
- Active energy class 1 (EN62053-21)
- Reactive energy class 2 (EN62053-23)
- 3-phase: 140...460Vac measured voltage
- Single phase: 80...265Vac measured voltage
- Self supplied auxiliary
- Programmable CT ratio 5...10,000A
- Programmable VT ratio
- Frequency 45/65Hz
- Selectable CT phase correction allows reversal of L1 and L3
- Weight 190g

Function Diagram

	x 1	x 2	x 3	x 4
	3 Phase Average Line to Neutral Voltage 3 Phase Active Energy - kWh Home Page (Unit will default to this page after 60 seconds)	Voltage <i>Line to Neutral Per Phase</i>	Current <i>Per Phase</i>	Power Factor 3 Phase Average Frequency Average L - N Voltage and Current
		Voltage <i>Line to Line Per Phase</i>	Power Factor 3 Phase Average Frequency Average L - L Voltage and Current	Power Factor Three Phases Frequency
				Active Power Three Phases
				Reactive Power Three Phases
				Apparent Power Three Phases
				Active Power Total
				Reactive Power Total
				Apparent Power Total
				Active Power Max. Demand
				Apparent Power Max. Demand

Button Selection

Dimension Diagrams (mm)

How to Order / Model Reference

eg **MRJ4M**

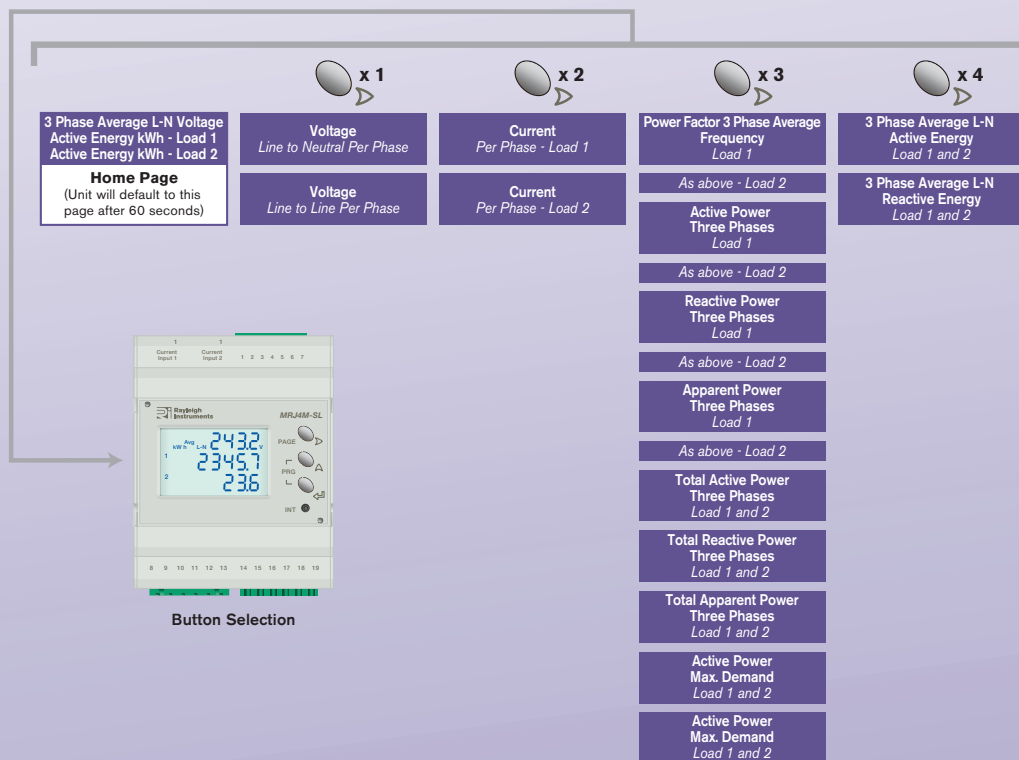
Model	MRJ4M
Output	

Mating halves of connectors and leads NOT supplied with meter - See Essential Extras and Accessories on page 17.

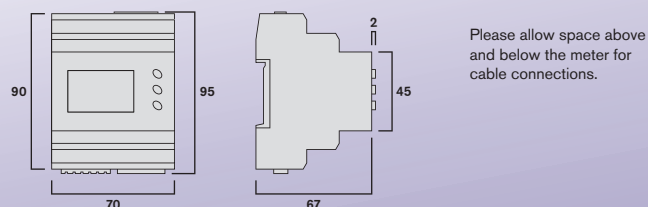


- Split Load, Dual CT input meter
- 4 Module DIN rail mounting
- Single phase or 2 x 3 phase (4 wire) network balanced or unbalanced load
- Built in Dual Energy Pulse output, configured to either kwh per load or kwh and kVarh (reactive) per load and RS485 MODBUS communication
- High quality backlit LCD display
- Wide range of measured parameters (see table below)
- 330mV current transformer input
- Active energy class 1 (EN62053-21)
- Reactive energy class 2 (EN62053-23)
- 3-phase: 140...460Vac measured voltage
- Single phase: 80...265Vac measured voltage
- Self supplied auxiliary
- Programmable CT ratio 5...10,000A per load
- Programmable VT ratio
- Frequency 45/65Hz
- Selectable CT phase correction allows reversal of L1 and L3
- Weight 200g

Function Diagram



Dimension Diagrams (mm)



How to Order / Model Reference

eg **MRJ4M-SL**

Model **MRJ4M-SL**

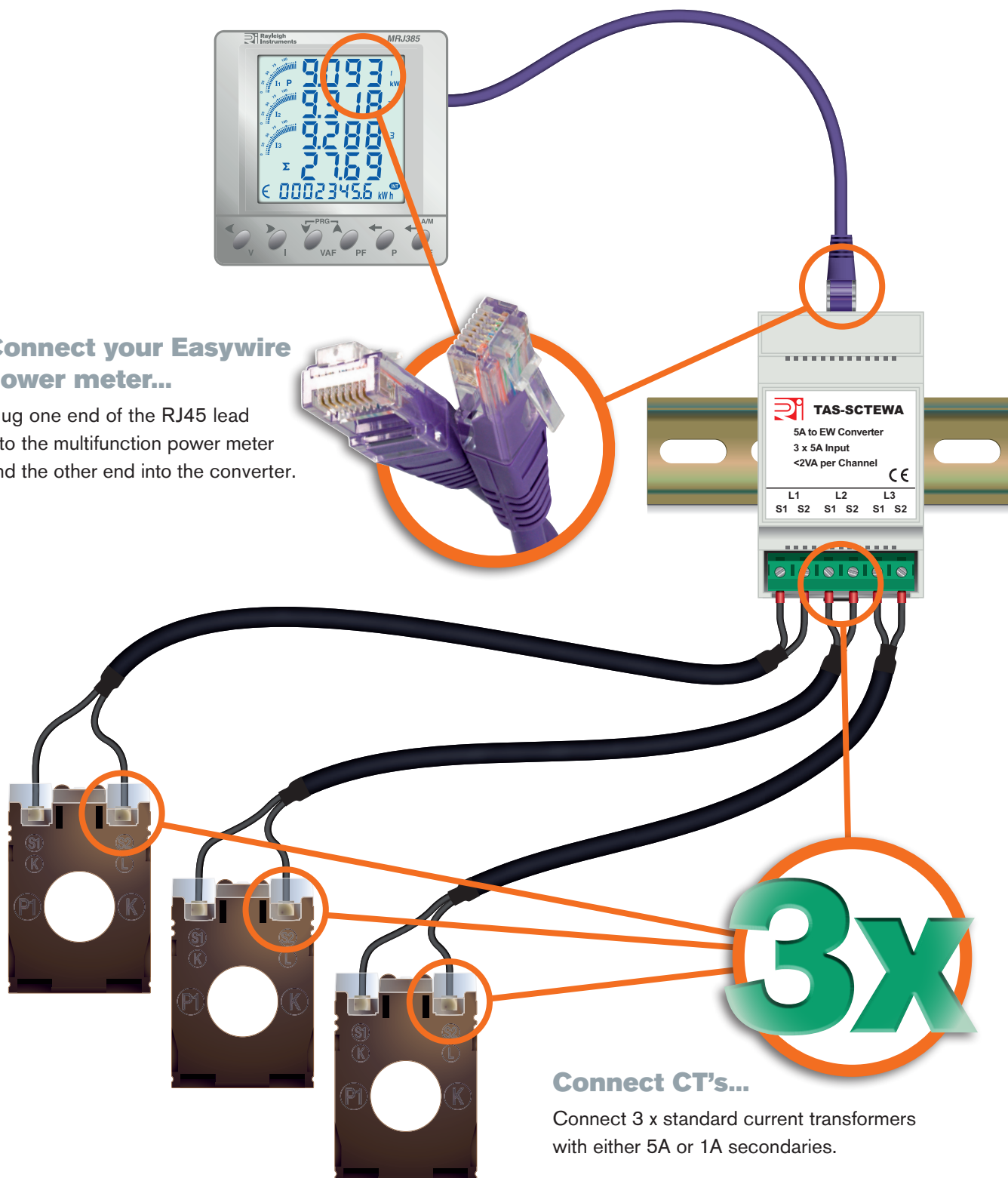
Output

Mating halves of connectors and leads NOT supplied with meter - See Essential Extras and Accessories on page 17.

You can even use standard CT's

Connect your Easywire power meter...

Plug one end of the RJ45 lead into the multifunction power meter and the other end into the converter.



Connect CT's...

Connect 3 x standard current transformers with either 5A or 1A secondaries.

Save Time,
Save Money...



- Connect up to 3 standard or split core CT's (1A or 5A secondaries)
- Integrated protection circuitry

Standard CT to Easywire Adaptor

The TAS-SCTEWA converter allows for the connection of up to three standard current transformers, or standard split-core current transformers (with 1A or 5A secondary's), to the Rayleigh Instruments Easywire system.

The unit has integrated protection circuitry allowing for disconnection from meter under load conditions for maintenance.

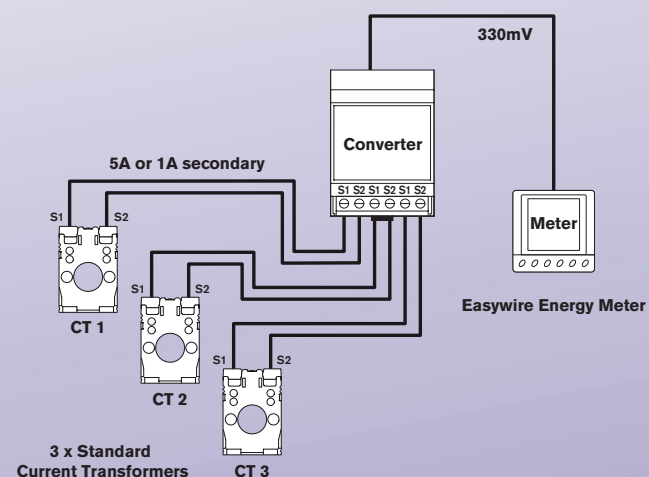
Technical Specification

Burden:	<2VA per channel (5A Version) <0.5VA per channel (1A Version)
Accuracy:	0.4%
Suggested Cable Size: (CT to Adaptor)	1.5mm ² or 2.5mm ² (2.5mm ² Max.)
Mounting:	DIN rail 35mm
Termination:	CT to adaptor - Rising clamp screw terminals Adaptor to Meter - RJ45 Patch Cable
Operating Temperature:	-10°C...+45°C
Storage Temperature:	-25°C...+70°C

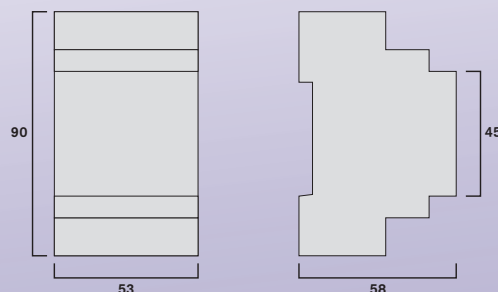
Important Note !

This converter does not provide electrical isolation.

Current transformer secondaries may not be earthed and should be wired as shown.



Dimension Diagrams (mm)



How to Order / Model Reference

Model	eg TAS-SCTEWA 5A
Output	TAS-SCTEWA
-/5A Secondary (standard)	5A
-/1A Secondary (available on request)	1A

TAS240-EW

easywire - Three Phase Measuring Current Transformers

Description

The TAS240-EW is a 75mm wide three phase measuring current transformer designed for use with the Easywire multifunction power meters. This current transformer has three 15.5 x 30mm holes and is available with primary currents from 60 to 160A.

Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.

Fixing

DIN rail mounting clip, Busbar mounting and fixing feet included.

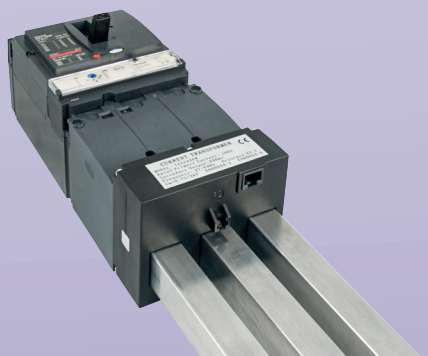


Installation

The TAS240-EW uses the Rayleigh Instruments Easywire technology allowing much faster installation saving you time and money.

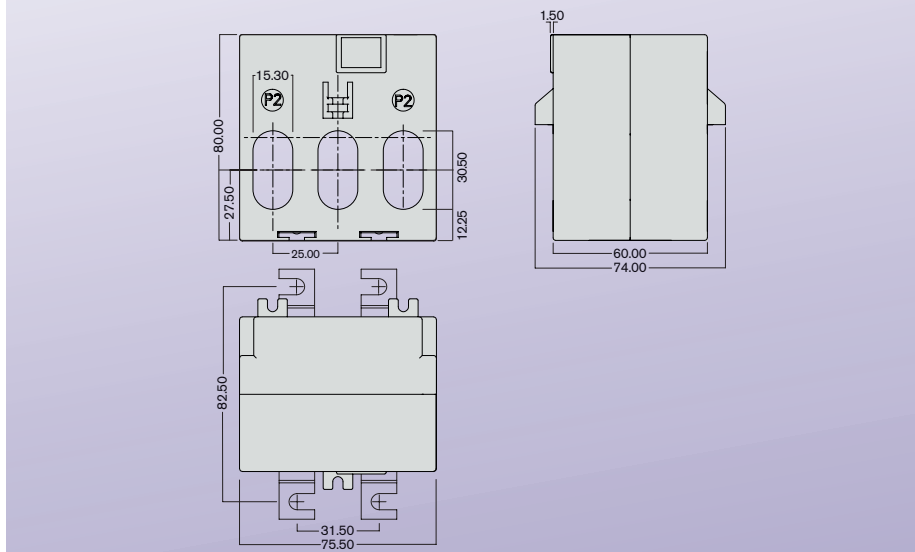


Additionally, all our three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.



- Accuracy Class 1
- Aperture: 3 @ 15.5 x 30mm
- Primary Current: 60 to 160A
- 25mm hole centres
- Housing Material Self extinguishing Nylon IEC185 classification VO according to UL-94
- Reference standard EN60044-8
- Weight : 500g

Dimensions (mm)



Current Transformer Ratios

Primary Current	Output	
A	mV	Code
60	330	060
100	330	100
125	330	125
150	330	150
160	330	160

330mV Secondary

How to Order / Model Reference

eg	TAS240EW	100	/330MV
Model	TAS240EW		
Primary Current			
Select code from ratio table above		???	
Secondary Current			
330mV			/330MV

Description

The TAS242-EW is a 105mm wide three phase measuring current transformer designed for use with the Easywire multifunction power meters. This current transformer has three 21 x 25mm holes and is available with primary currents from 60 to 250A.

Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.

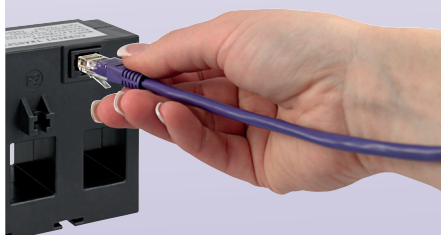
Fixing

DIN rail mounting clip, Busbar mounting and fixing feet included.

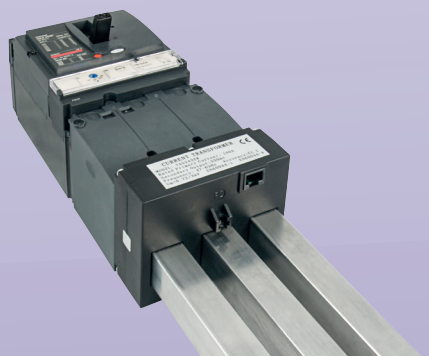


Installation

The TAS242-EW uses the Rayleigh Instruments Easywire technology allowing much faster installation saving you time and money.

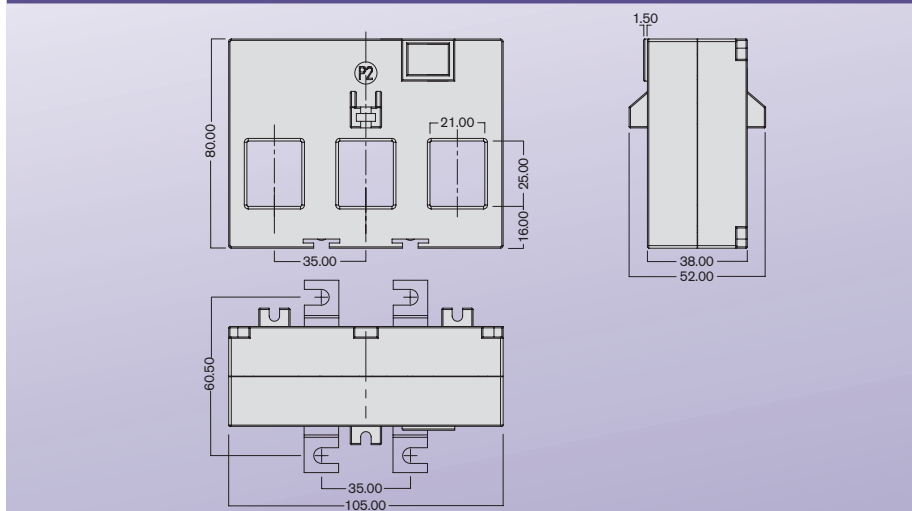


Additionally, all our three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.



- Accuracy Class 1
- Aperture: 3 @ 21 x 25mm
- Primary Current: 60 to 250A
- 35mm hole centres
- Housing Material Self extinguishing Nylon IEC185 classification VO according to UL-94
- Reference standard EN60044-8
- Weight : 550g

Dimensions (mm)



Current Transformer Ratios

Primary Current	Output	
A	mV	Code
60	330	060
100	330	100
125	330	125
150	330	150
160	330	160
200	330	200
250	330	250

330mV Secondary

How to Order / Model Reference

eg	TAS242EW	125	/330MV
Model	TAS242EW		
Primary Current			
Select code from ratio table above		???	
Secondary Current			/330MV

TAS248-EW**easywire** - Three Phase Measuring Current Transformers**Description**

The TAS248-EW is a 140mm wide three phase measuring current transformer designed for use with the Easywire multifunction power meters. This current transformer has three 31 x 31mm holes and is available with primary currents from 250 to 630A.

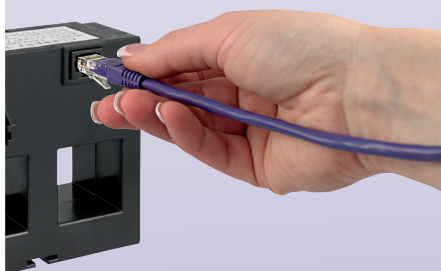
Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.

Fixing

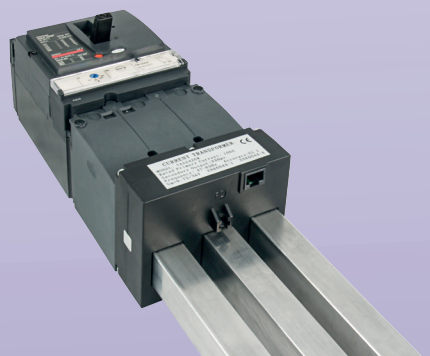
DIN rail mounting clip, Busbar mounting and fixing feet included.

**Installation**

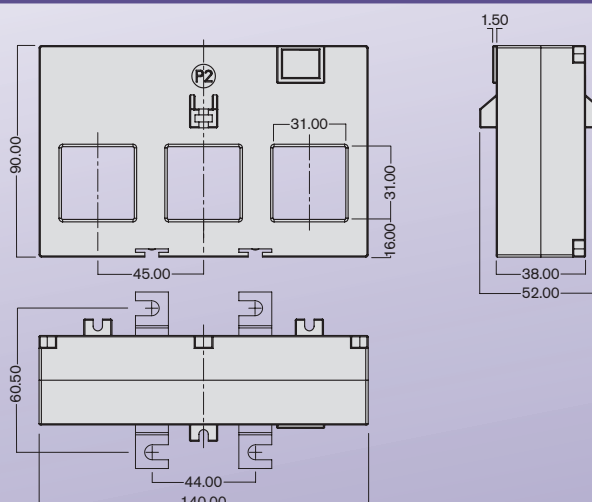
The TAS248-EW uses the Rayleigh Instruments Easywire technology allowing much faster installation saving you time and money.



Additionally, all our three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.



- Accuracy Class 1
- Aperture: 3 @ 31 x 31mm
- Primary Current: 250 to 630A
- 45mm hole centres
- Housing Material Self extinguishing Nylon IEC185 classification VO according to UL-94
- Reference standard EN60044-8
- Weight : 680g

Dimensions (mm)**Current Transformer Ratios**

Primary Current	Output	
A	mV	Code
250	330	250
300	330	300
400	330	400
500	330	500
600	330	600
630	330	630

330mV Secondary

How to Order / Model Reference

eg **TAS248EW 400 /330MV**

Model	TAS248EW	
Primary Current		
Select code from ratio table above	???	
Secondary Current		/330MV

TAS249-EW

easywire - Three Phase Measuring Current Transformers

Description

The TAS249-EW is a 90mm wide three phase measuring current transformer designed for use with the Easywire multifunction power meters. This current transformer has three 16 x 20mm holes and is available with primary currents from 60 to 160A.

Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.



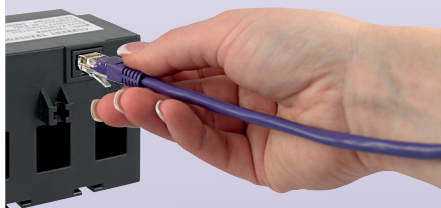
Fixing

DIN rail mounting clip, Busbar mounting and fixing feet included.



Installation

The TAS249-EW uses the Rayleigh Instruments Easywire technology allowing much faster installation saving you time and money.

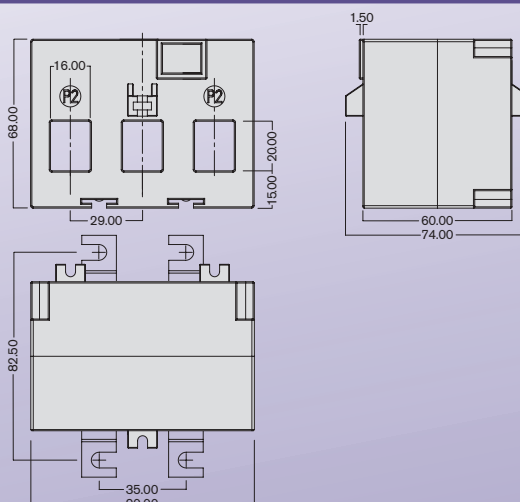


Additionally, all our three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.



- Accuracy Class 1
- Aperture: 3 @ 16 x 20mm
- Primary Current: 60 to 160A
- 29mm hole centres
- Housing Material Self extinguishing Nylon IEC185 classification VO according to UL-94
- Reference standard EN60044-8
- Weight : 500g

Dimensions (mm)



Current Transformer Ratios

Primary Current	Output	
A	mV	Code
60	330	060
100	330	100
125	330	125
150	330	150
160	330	160

330mV Secondary

How to Order / Model Reference

eg	TAS249EW	160	/330MV
Model	TAS249EW		
Primary Current			
Select code from ratio table above	???		
Secondary Current			
330mV			/330MV

TAS250-EW

easywire - Three Phase Measuring Current Transformers

Description

The TAS250-EW is a 215mm wide three phase measuring current transformer designed for use with the Easywire multifunction power meters. This current transformer has three 54 x 50mm holes and is available with primary currents from 800 to 1600A.

Internal safety circuitry is provided which limits the output voltage to a safe level, allowing the transformer secondary to be left disconnected under load.

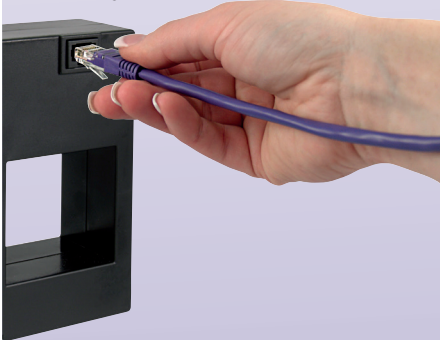
Fixing

DIN rail mounting clip, Busbar mounting and fixing feet included.



Installation

The TAS250-EW uses the Rayleigh Instruments Easywire technology allowing much faster installation saving you time and money.

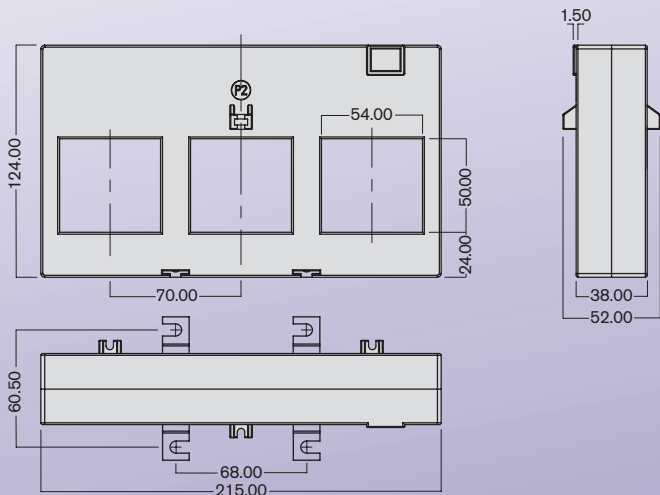


Additionally, all our three phase current transformers have been designed with hole centres and apertures to fit most standard industrial circuit breakers.



- Accuracy Class 1
- Aperture: 3 @ 54 x 50mm
- Primary Current: 800 to 1600A
- 70mm hole centres
- Housing Material Self extinguishing Nylon IEC185 classification VO according to UL-94
- Reference standard EN60044-8
- Weight : 1200g

Dimensions (mm)



Current Transformer Ratios

Primary Current	Output	
A	mV	Code
800	330	800
1000	330	100
1200	330	120
1250	330	125
1500	330	150
1600	330	160

330mV Secondary

How to Order / Model Reference

eg	TAS250EW	125	/330MV
Model	TAS250EW		
Primary Current			
Select code from ratio table above		???	
Secondary Current			/330MV
330mV			

CT Output and RJ45 Lead Tester

This device makes it possible to test the RJ45 patch lead used to connect the current transformer to the meter. It also enables a standard electricians multimeter to measure the individual secondary outputs of the current transformer.

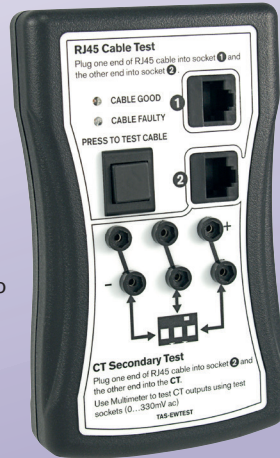
To test the RJ45 patch lead, simply disconnect the lead from the meter and current transformer. Plug one end into socket ① and the other end into socket ② on the test box. Press the test button - the Green LED will light to indicate the lead is OK or the Red LED will light to indicate a faulty lead.

When the lead is proven to be OK you can then check the individual secondary outputs of the current transformer.

To measure the secondary output plug one end of the RJ45 patch lead into the current transformer and the other end into socket ② on the test box. You can now use a standard multimeter to test the secondaries using the test points on the front of the test box.

The output measured for each phase should be between 0 and 330mVac.

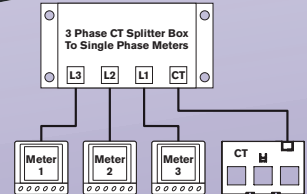
Model Reference: TAS-EWTEST



3 Phase CT Splitter Box

This 3 Phase CT Splitter Box allows the separate monitoring of each phase of a three phase current transformer on individual energy meters.

Model Reference: TAS-3RSD



Meter Voltage Supply Cable



Our high quality Meter Voltage Supply Cables are fitted with a plug at one end and insulated bootlace ferrules at the other and provide power to the Easywire meter from your mains supply.

Two type of cable material are available:-
LSZH (Low Smoke Zero Halogen) or
PVC/PVC (High Flex).

How to Order / Model Reference

LSZH - 1mm²

eg TAS-MVSC 0.30

Part Number	TAS-MVSC	
Cable Length		
0.3m - Voltage Supply Cable (300mm)		0.30
0.5m - Voltage Supply Cable (500mm)		0.50
1.0m - Voltage Supply Cable (1000mm)		1.00
1.3m - Voltage Supply Cable (1300mm)		1.30
2.0m - Voltage Supply Cable (2000mm)		2.00
3.0m - Voltage Supply Cable (3000mm)		3.00

Other lengths available on request (Max. 15m)

PVC/PVC - 1mm²

eg TAS-F-MVSC 0.30

Part Number	TAS-F-MVSC	
Cable Length PVC/PVC		
0.3m - Voltage Supply Cable (300mm)		0.30
0.5m - Voltage Supply Cable (500mm)		0.50
1.0m - Voltage Supply Cable (1000mm)		1.00
1.3m - Voltage Supply Cable (1300mm)		1.30
2.0m - Voltage Supply Cable (2000mm)		2.00
3.0m - Voltage Supply Cable (3000mm)		3.00

Other lengths available on request (Max. 15m)

Meter to Meter Supply Cable



Our high quality Meter to Meter Voltage Supply Cables are fitted with a plug at one end and socket at the other. This allows multiple Easywire meters to be energised from a common supply.

Up to 32 meters can be powered in a 'daisy chain' arrangement using this method.

Two type of cable material are available:-
LSZH (Low Smoke Zero Halogen) or
PVC/PVC (High Flex).

How to Order / Model Reference

LSZH - 1mm²

eg TAS-MTMS 0.30

Part Number	TAS-MTMS	
Cable Length		
0.15m - Supply Link Cable (150mm)		0.15
0.3m - Supply Link Cable (300mm)		0.30
0.5m - Supply Link Cable (500mm)		0.50
1.0m - Supply Link Cable (1000mm)		1.00
1.3m - Supply Link Cable (1300mm)		1.30
2.0m - Supply Link Cable (2000mm)		2.00
3.0m - Supply Link Cable (3000mm)		3.00

Other lengths available on request (Max. 15m)

PVC/PVC - 1mm²

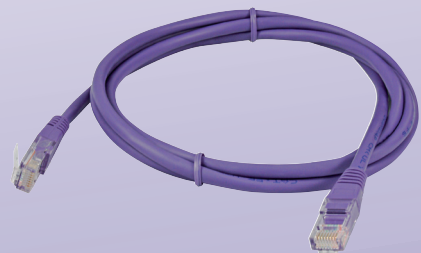
eg TAS-F-MTMS 0.30

Part Number	TAS-F-MTMS	
Cable Length		
0.15m - Supply Link Cable (150mm)		0.15
0.3m - Supply Link Cable (300mm)		0.30
0.5m - Supply Link Cable (500mm)		0.50
1.0m - Supply Link Cable (1000mm)		1.00
1.3m - Supply Link Cable (1300mm)		1.30
2.0m - Supply Link Cable (2000mm)		2.00
3.0m - Supply Link Cable (3000mm)		3.00

Other lengths available on request (Max. 15m)

RJ45 Connection Cable

The high quality low loss Category 5e RJ45 Connection Cable provides secondary connection between the Easywire current transformer and meter.



How to Order / Model Reference

eg TAS-RJ45CC 0.30

Part Number	TAS-RJ45CC	
Cable Length		
0.3m - RJ45 connector cable (300mm)		0.30
0.5m - RJ45 connector cable (500mm)		0.50
1.0m - RJ45 connector cable (1000mm)		1.00
1.5m - RJ45 connector cable (1500mm)		1.50
2.0m - RJ45 connector cable (2000mm)		2.00
3.0m - RJ45 connector cable (3000mm)		3.00

Other lengths available on request (Max. 15m)

Supply Voltage Connector Plugs

For those who want to make up their own power cable looms, connector plugs are available.

Model Reference

Voltage IN
(Male) Connector:
BV9523MALE

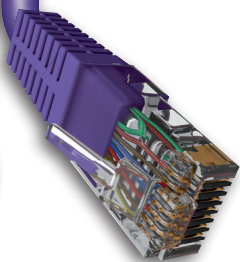
Voltage OUT
(Female) Connector:
BV9522FEMALE



Rayleigh Instruments product range:-

- Instrumentation and Control Products
- Safety and Motor Brake Products
- Temperature and Pressure Products
- Rotational Measurement and Control Products
- Measuring Relays and Timers
- Energy Monitoring
- Solar PV - Photovoltaic Products
- Rail and Special Products

easywire



Rayleigh Instruments Limited is a subsidiary of the Raytel Group Limited and is a prominent supplier to the UK market of a broad range of energy and process control instrumentation.

We are a long established company, who are very protective of our well-earned reputation for supplying the highest quality products at extremely competitive prices.



EST. 1964

**Rayleigh
Instruments**

• Quality Products • Great Prices

Rayleigh Instruments Limited

Raytel House, Cutlers Road, South Woodham Ferrers,
Chelmsford, Essex CM3 5WA. UK.

T +44 (0) 1245 428500 **F** +44 (0) 1245 428509

E sales@rayleigh.co.uk **W** www.rayleigh.co.uk

• **Proven** • **Safe** • **Reliable**

The original and market leading plug & play metering system