Socomec Energy Management Catalogue

Introduction to Energy Management

Green levies, tighter operating margins and profits are a few economic drivers forcing operators to use more intelligent power management strategies.

Real-time measurements of electrical parameters, such as voltage variations or distortions, can be transmitted via networks to operators, warning of breaches in threshold limits. Power quality information improves on-site efficiency and eases negotiation with utility companies and energy authorities.

NHP supplies energy management systems that provide information for operators to identify consumption trends and take corrective actions. By analysing the power profile operators can also aggregate loads and negotiate more favourable terms with the utility company.

Real time power consumption monitoring also allows a site manager to anticipate overload conditions that would, for example, trip a circuit breaker and cause costly downtime.

Alarm thresholds can be set to warn managers if preset limits are reached.

Armed with this system loading and status information, managers can organise remedial action in a timely manner.

Satisfying all your energy management needs

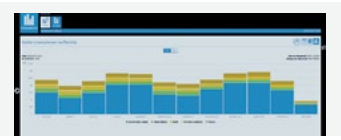
Studies have shown that through measurement alone, energy consumption reductions can be achieved. NHP aims to satisfy all your Energy Management requirements with a tailored solution to fit your site's targets and requirements.

Selecting the right energy management solution requires three key steps to ensure a system that will allow for continuous improvement.

Monitoring: An important decision to be made in this step is what kind of information is required for effective decision making.

For example: Is the requirement to monitor main loads with kW usage only or is a more detailed information like Total Harmonic Distortion (THD) required for loads such as pool pumps or large HVAC systems.

Visualising: Having an easy to access and understand way to centralise and visualise your energy data is key to making informed strategic decisions to reduce energy costs and introduce efficiencies.



Reporting: The ability to report on any energy usage allows for historical data analysis as well as the ability to act on any unusual events. An important aspect of reporting is also the ability to create data redundancy.

By bringing together components from the entire NHP product range, including our highly accurate meters and accessories, embedded Energy Management System (EMS), as well as EMS commissioning, you can trust NHP to deliver a customised solution to suit your application.

Advanced multifunction meters

Advanced multifunction meters give insight into the site's full energy usage. From bi-directional energy monitoring for any renewable energy sources on site to individual harmonic monitoring for any non-linear loads. The main application for advanced multifunction meters is to install at the switchboard to monitor full site usage. Other applications also include where higher accuracy and functionality are required at a critical load.

High accuracy

- Class accuracy for the advanced multifunction meters starts at a class 0.5S at active energy
- Tested to power monitoring device standard IEC 61557-12

Added flexibility

- Options for quick connect CTs or modular accessories gives you the flexibility to chose the right meter for each application
- Added features such as circuit breaker status monitoring means that you have extra features with less components

Easy to install

- Automatic wiring error detection and correction cutting down any troubleshooting time
- Easy to configure through the meter screen or laptop

Multifunction Meters Comparison Chart

Model	DIRIS A-10	DIRIS A-30	DIRIS A-40
Measurement Variable			
Class Accuracy	0.5s	0.5s	0.2s
Current, Voltage Energy Total and Per Phase (I, V, kWh, kVAh,kVArh, L-L, L-N)	✓	✓	✓
Neutral Current	✓	✓	✓
Imax, Iaverage, Pmax, Paverage, Pmaxdmd, Imaxdmd	✓	✓	✓
Four Quadrant Monitoring (+/-kWh, +/- kVarh)	✓	✓	✓
Hour meter	✓	✓	✓
Power Factor (Total, Per Phase)	✓	✓	✓
Total Harmonic Distortion (THDi & THDv)	✓	✓	✓
Individual harmonics	✗	up to 63rd	up to 63rd
THDi/ THDv Per Phase (L-N, L-L)	THDi & THDv	THDi & THDv	THDi & THDv
Voltage & Current Unbalances	✗	✗	✓
Voltage sags, interruptions and swells	✗	✗	✓
K factor	✗	✓	✓
Crest factor	✗	✗	✓
Load curves	✗	✗	✓
Tariff Management	Dual	via accessory	Multi (8 max)
Load shedding	✗	via accessory	✓
Predictive Power Analysis ∑P, ∑Q, ∑S	✗	✓	✓
Communication and I/O Options			
MODBUS RS485	✓	✓	✓
Ethernet	✗	via accessory	✓
BacNet IP	✗	✗	✓
Temperature Monitoring	✓	via accessory	✗
Digital Input/Digital output	✗	via accessory	✓
Pulse Input/Pulse Output	✗ / ✓	via accessory	✓
Analogue Input 0/4 - 20 mA	✗	via accessory	✗
Alarms			
All electrical values	✓	via accessory	✓
Events	✓	via accessory	✓
Time-stamping	✗	via memory module accessory	✓
Cricuit breaker status monitoring and alarm	✗	via accessory	with iTR or digital input
Installation			
Automatic error detection / Correction	✓	✓	✓
Mounting	DIN	Panel	Panel & DIN via accessory
Quick connect CTs	✗	✗	✓
1 Phase system / 3 Phase System	✓	✓	✓

DIRIS A-10

DIN Mount Three Phase Multifunction Meters

The DIRIS A-10 is a compact DIN mount multifunction meter used in low voltage networks to measure electrical parameters and, Total Harmonic Distortion (THD) up to the 51st order.

Key features and benefits

- Easy to install and configure
- Equipped with an integrated temperature sensor
- Communication mode through MODBUS RTU RS485
- Dual tariff management (non-billing)
- Certified Power Monitoring Device (PMD) IEC 61557-12

Standards & Approvals

- IEC 61557-12
- IEC 62053-22 ; class 0.5S
- IEC 62053-23 ; class 2
- ROHS

Description	Part Number
A-10 Multifunction meter with RS485	48250401
A-10 Multifunction meter with Pulse Output	48250400

Product Characteristics

DIRIS A-10	
	
Dimensions W x H x D (DIN)	72 x 90 x 64 mm (4DIN)
System type	1, 3 Phase
Measurement range	
Input Current via CT primary / secondary	5 A / 9999 A
Measurement range	0 - 11 kA
Input Voltage (Vp-n, Vp-p)	28 – 289 V AC , 50 – 500 V AC
Accuracy	
IEC 61557-12	Yes
IEC 62053-22 Active Energy	Class 0.5S
IEC 62053-23 Reactive Energy	Class 2
Current and Voltage	0.2 %
Power and PF	0.5%
Frequency	0.1%
Total harmonic distortion	THDi and THDv
Communication	
Protocol	RS485 (MODBUS RTU)
Digital output	1
Number of Pulse output	1
Auxiliary power supply	
Voltage	110 – 277 V AC
Frequency	50 / 60 Hz
Operating temperature	-10 to +55 °C
IP rating (front)	IP 52

Scan this QR code for additional information

DIRIS A-30

Modular Multifunction Meters

The DIRIS A-30 is a high accuracy modular multifunction meter. It is user friendly with installation and troubleshooting assistance such as wiring error detection. With a wide range of additional modules, the Diris A-30 gives user flexibility at installation or throughout the product service life.

Key features and benefits

- Customisable with additional modules providing flexibility and expandability
- Easy to use and quick to configure
- Equipped with an error correction function for CT connection
- Expandable to additional functionalities such as temperature monitoring or use as a gateway for other RS485 devices
- Certified Power Monitoring Device (PMD) IEC 61557-12

Standards & Approvals

- IEC 61557-12
- IEC 62053-22 ; class 0.5S
- IEC 62053-23 ; class 2
- ROHS

Description	Part Number
Diris A30 Base Meter 110-400V AC or or 120-350V DC Aux Supply	48250403
Diris A30 Base Meter 12-48V DC Aux Supply	48250405

Plug-In Modules	Part Number
Modbus RS485 Communication	48250092
Ethernet Communication	48250203
Ethernet + RS485 gateway	48250204
PROFIBUS-Communication	48250205
2x Pulse outputs	48250090
2x Analogue outputs	48250093
Digital IO 2x Input 2x Output	48250094
Memory (up to 60 days of data)	48250097
Temperature inputs (3x Sensors)	48250206
PT100 Sensor M6 Screw	48250208
PT100 Sensor M6 Lug	48250209

Product Characteristics

	DIRIS A-30
	
Dimensions W x H x D	96 x 96 x 60 mm (Panel mount)
System type	1, 3 Phase
Measurement range	
Input Current via CT primary / secondary	9999 A / 1 A or 5 A
Measurement range	0 - 11 kA
Input Voltage (Vp-n , Vp-p)	28 - 600 V AC , 50 - 1039 V AC
Accuracy	
IEC 61557-12	Yes
IEC 62053-22 Active Energy	Class 0.5S
IEC 62053-23 Reactive Energy	Class 2
Current and Voltage	0.2 %
Power and PF	0.5%
Frequency	0.1%
Total harmonic distortion	THDi, THDv and individual up to 63rd
Communication	**Through optional module***
Protocol	Modbus RS485 or Ethernet (Modbus TCP)
Digital output / Input (tariff) number	1
Number of Pulse / Analog output	2 / 2
Auxiliary power supply	
Voltage	110 - 400 V AC / 120 - 350 V DC or 12 - 48 V DC
Frequency	50/60 Hz
Operating temperature	-10 to +55 °C
IP rating (front)	IP 52

*Note: For full list of communication options, refer to item numbers on page 10

Scan this QR code for additional information

DIRIS A-40

Quick Connect Advanced Multifunction Meters

DIRIS A-40 is a panel-mounted quick connect advanced multifunction meter designed for measuring, monitoring and reporting electrical energy. It offers a range of functions that goes above other multifunction meters such as load analysis graphs and virtual monitoring for breaker status. It allows the analysis of one single-phase or three-phase load.

Key features and benefits

- Easy to install with quick connect RJ-12 CTs
- Options for CTs include solid core, split core or Rogowski coil for application flexibility
- High accuracy with system class of 0.5
- Easily integrated to a head end energy management system
- Option for embedded webserver for analysis of a single load
- User friendly assisted commissioning with auto-detecting parameters and easy to spot error detection and correction

Standards & Approvals

- IEC 61557-12
- IEC 62053-22; Class 0.2s
- IEC 62053-23; Class 1
- ROHS

Description	Part Number
Diris A-40 with Modbus RS845 & 3I & 2O	48250500
Diris A-40 with Modbus RS485 & Ethernet or BACnet IP & 3I & 2O	48250501
Diris A-40 With Profibus & 3I 2O	48250502

RJ12 cables for TE, TR and iTR CTs	Part Number*
1m (3x RJ12 cables)	48290583
2m (3x RJ12 cables)	48290584
3m (3x RJ12 cables)	48290606
5m (1x RJ12 cable)	48290602
10m (1x RJ12 cable)	48290603

*Note: Part numbers available for 4x R12 cable packs for 3P4W systems or short/longer cable lengths. Please contact your local NHP representative for more options if the above list doesn't suit your application.

For corresponding CTs, please refer to the CT range options on page 14 and 15

Product Characteristics

	DIRIS A-40
	
Dimensions W x H x D	96 x 96 x 85 mm
System type	1 Phase or 3 Phase
Measurement range	
Input Current via CT primary / secondary	mV through RJ12
Measurement range	6000A*
Input Voltage (Vp-n, Vp-p)	50 – 300 V AC , 87 – 520 V AC
Accuracy	
IEC 61557-12	Yes
IEC 62053-22 Active Energy	Class 0.2S
IEC 62053-23 Reactive Energy	Class 1
Current and Voltage	Class 0.2
Power and PF	Class 0.5 with TE, TF or iTR & Class 1 with TR
Frequency	Class 0.02
Total harmonic distortion	THDi, THDv and individual up to 63rd
Communication	
Protocol	RS485 (MODBUS RTU), Ethernet (MODBUS TCP), BACnet IP, PROFIBUS® DP
Digital output / Input (tariff) number	2 / 3
Auxiliary power supply	
Voltage	110 – 400 V AC & 120 – 300 V DC
Frequency	50/60 Hz
Operating temperature	-10 to +55 °C
IP rating (front)	IP 52

*Note: Up to 6000A corresponding quick connect CTs. For larger currents, use traditional CT and a converter to RJ12.

Scan this QR code for additional information

Quick Connect Current Transformers (CTs)

TE

Suitable for new installations match the pitch of protective devices

Solid Core	TE-18	TE-18	TE-25	TE-35
				
Nominal current I_n (A) Current range which fits breaker pitch size	5 ... 20	25 ... 63	40 ... 160	63 ... 250
Actual current range (A) Maintained accuracy current range	0.1 ... 24	0.5 ... 75.6	0.8 ... 192	1.26 ... 300
Aperture (mm)	Ø 8.4	Ø 8.4	13.5 x 13.5	21 x 21
Dimensions (mm) (WxDxH)	28 x 20 x 45	28 x 20 x 45	25 x 32.5 x 65	35 x 32.5 x 71
Connection	RJ12	RJ12	RJ12	RJ12
Part Number	4829050020A	48290501	48290502	48290503

Solid Core	TE-45	TE-55	TE-90
			
Nominal current I_n (A) Current range which fits breaker pitch size	160 ... 630	400 ... 1000	600 ... 2000
Actual current range (A) Maintained accuracy current range	3.2 ... 756	8 ... 1200	12 ... 2400
Aperture (mm)	31 x 31	41 x 41	64 x 64
Dimensions (mm) (WxDxH)	45 x 32.5 x 86	55 x 32.5 x 100	90 x 126 x 24.6
Connection	RJ12	RJ12	RJ12
Part Number	48290504	48290505	48290506

For currents above 2000 A, use the TF CTs or the 5A / RJ12 adapter, which provides compatibility with 1A or 5A secondary CTs (48290599).

TR / iTR

Suitable for existing installations

Split Core	TR / iTR-10	TR / iTR-14	TR / iTR-21	TR / iTR-32
Added feature of monitoring corresponding breaker status with the iTR CTs TR version of Split Core CT provides a global accuracy of Class 1				
Nominal current I_n (A) Current range which fits breaker pitch size	25 ... 63	40 ... 160	63 ... 250	160 ... 600
Actual current range (A) Maintained accuracy current range	0.5 ... 90	0.64 ... 120	1.26 ... 200	4 ... 720
Aperture (mm)	Ø 10	Ø 14	Ø 21	Ø 32
Dimensions (mm) (WxDxH)	26 x 28 x 44	29 x 28 x 67	37 x 43 x 65	53 x 47 x 86
Connection	RJ12	RJ12	RJ12	RJ12
Part Number	48290555 / 48290655	48290556 / 48290656	48290557 / 48290657	48290558 / 48290658

TF

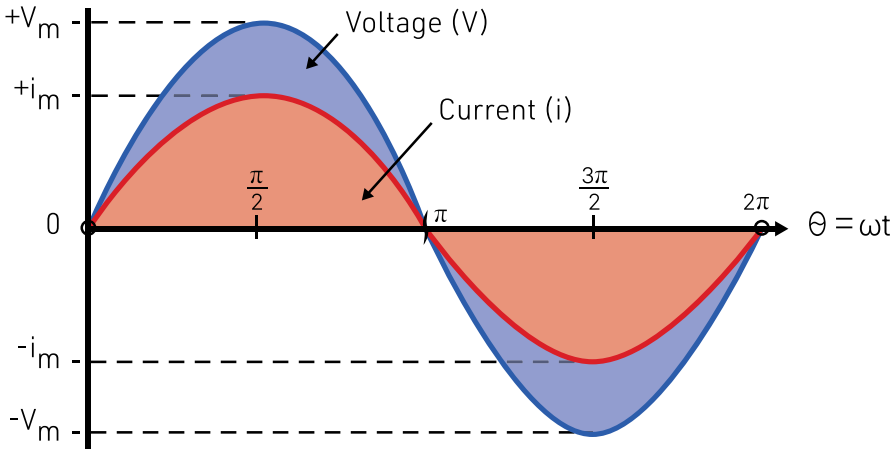
Suitable for new or existing installations with space constraints or with high currents

Rogowski Coil	TF-40	TF-80	TF-120	TF-200	TF-300	TF-600
						
Nominal current I_n (A) Current range which fits breaker pitch size	140 ... 400	150 ... 600	400 ... 2000	600 ... 4000	1600 ... 6000	1600 ... 6000
Actual current range (A) Maintained accuracy current range	2 ... 480	3 ... 720	8 ... 2400	12 ... 4800	32 ... 7200	32 ... 7200
Aperture (mm)	Ø 40	Ø 80	Ø 120	Ø 200	Ø 300	Ø 300
Connection	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12
Part Number	48290573	48290574	48290575	48290576	48290577	48290578

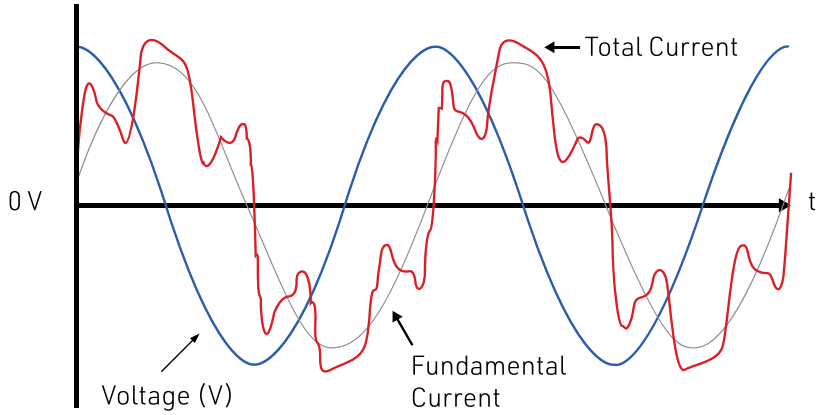
For currents above 720 A, use the TF CTs or the 5A / RJ12 adapter, which provides compatibility with 1A or 5A secondary CTs (48290599).

Power Quality Analysers

Power quality analysers are a powerful tool to install at a site to monitor the full site power quality. Good power quality means the voltage and current are in phase with a clean sinusoidal curve. However, the addition of non-linear fast switching devices such as Heating, Ventilation, Air-conditioning (HVAC) or Variable Speed Drives (VSDs) can introduce harmonics to the current source, generating wasted energy through heat in the electrical infrastructure.



Graph 1: Good Power Quality



Graph 2: Power Quality with added harmonics and power factor

Installing a power quality analyser provides vital information that would otherwise remain hidden until a fault occurs. Typically, these analyzers are installed at the switchboard level to measure incoming and outgoing power, as well as at the distribution board level for sensitive equipment such as medical imaging devices, server equipment, and computers.

NHP's power quality analysers are highly accurate meters that suit any application.

High accuracy

- Class accuracy for the power quality meters starts at a class 0.2S at active energy
- Tested to power monitoring device standard IEC 61557-12
- Power Quality Analysis reporting in accordance to IEC 61000-4-30 and EN50160

Added flexibility

- Options for quick connect CTs and multiple communication output options give you the flexibility to chose the right meter for each application
- Added features such as circuit breaker status monitoring means that you have extra features with less components
- Ability to send alarms and energy data to both a PLC and EMS

Easy to install

- Automatic wiring error detection and correction, cutting down any troubleshooting time
- Easy to configure through the meter screen or laptop

Power Quality Analysers

Model	DIRIS A-200	DIRIS Q-800
Measurement Variable		
Class Accuracy	0.1s	0.2s
Current, Voltage Energy Total and Per Phase (I, V, kWh, kVAh,kVArh, L-L, L-N)	✓	✓
Neutral Current	✓	✓
Imax, Iaverage, Pmax, Paverage, Pmaxdmd, Imaxdmd	✓	✓
Four Quadrant Monitoring (+/-kWh, +/- kVarh)	✓	✓
Hour meter	✓	✓
Power Factor (Total, Per Phase & Max Average)	✓	✓
Total Harmonic Distortion (THDi & THDv)	✓	✓
Individual harmonics	up to 63rd	up to 63rd
THDi/ THDv Per Phase (L-N, L-L)	THDi & THDv	THDi & THDv
Voltage & Current Unbalances	✓	✓
Voltage sags, interruptions and swells	✓	✓
K factor	✓	✓
Crest factor	✓	✓
Load curves	✓	✓
Tariff Management	Advanced	Advanced
Load shedding	✓	✗
Predictive Power Analysis ∑P, ∑Q, ∑S	✓	✓
Communication and I/O Options		
MODBUS RS485	✓	✓
Ethernet	Dual Ethernet ports	Dual Ethernet ports
BacNet IP	✓	✓
Temperature Monitoring	✗	✗
Digital Input/Digital output	✓	✓
Pulse Input/Pulse Output	✓ / ✗	✓
Analogue Input 0/4 - 20 mA	✗	✗
Alarms		
All electrical values	✓	✓
Events	✓	✓
Time-stamping	✓	✓
Cricuit breaker status monitoring and alarm	with iTR or Digital Input	✗
Installation		
Automatic error detection / Correction	✓	✗
Mounting	Panel	Panel
Quick connect CTs	✓	✗
1 Phase system / 3 Phase System	✓ / ✓	✗ / ✓

DIRIS A-200

Quick Connect Power Analyser

The DIRIS A-200 is a versatile feature rich power quality meter with quick connect R12 CTs. It offers a wide range of power quality analysis functionalities such as waveform capture, time of use calendar, voltage interruptions, harmonic monitoring and tariff management. The A200 also has multiple native communication points allowing for the data to be used by more than one EMS, BMS or SCADA.

Key features and benefits

- High accuracy Class 0.1s
- Quick connect R12 CTs with options for solid core, split core or Rogowski coil
- Power quality monitoring with waveform capture, real time alarm and event logging
- Onboard MODBUS RS485, dual ethernet communications and 4GB of memory
- Embedded web server for power quality and load analysis
- Ability to monitor either 1x 3P3W, 1x 3P4W or 4x 1P2W loads

Standards & Approvals

- IEC 61557-12
- IEC 62053-22; Class 0.1s
- IEC 62053-24; Class 1
- ROHS

Description	Part Number
Diris A-200 with Modbus RS485, Dual Ethernet or BACnet IP &3I 1O	48250604

RJ12 cables for TE, TR and iTR CTs	Part Number*
1m (3x RJ12 cables)	48290583
2m (3x RJ12 cables)	48290584
3m (3x RJ12 cables)	48290606
5m (1x RJ12 cable)	48290602
10m (1x RJ12 cable)	48290603

*Note: Part numbers available for 4x R12 cable packs for 3P4W systems or short/longer cable lengths. Please contact your local NHP representative for more options if the above list doesn't suit your application.

Note: For corresponding CTs, please refer to the CT range options on page 14 and 15

Product Characteristics

	DIRIS A-200
	
Dimensions (W x H x D)	96 x 96 x 108 mm
System type	1 phase or 3 Phase
Measurement range	
Input Current via CT primary / secondary	RJ12
Measurement range	Up to 6000A*
Input Voltage (Vp-n)	50 – 1039 V AC
Accuracy	
IEC 61557-12	Yes
IEC 62053-22 Active Energy	Class 0.1S
IEC 62053-23 Reactive Energy	Class 1
Current and Voltage	Class 0.2
Power and PF	Class 0.5 with TE, TF or iTR & Class 1 with TR
Frequency	Class 0.02
Total harmonic distortion	THDi, THDv and individual up to 63rd
Communication	
Protocol	RS485 (MODBUS RTU) and 2x Ethernet (MODBUS TCP) or BACnet IP
Digital output / Input number	1 / 3
Auxiliary power supply	
Voltage	115 – 600 V AC
Frequency	50 / 60 Hz
Operating temperature	-25 to +70 °C
IP Rating (front)	IP 52

*Note: Up to 6000A corresponding quick connect CTs. For larger currents, use traditional CT and a converter to RJ12.

Scan this QR code for additional information

Quick Connect Current Transformers (CTs)

TE

Suitable for new installations match the pitch of protective devices

Solid Core	TE-18	TE-18	TE-25	TE-35
				
Nominal current I_n (A) Current range which fits breaker pitch size	5 ... 20	25 ... 63	40 ... 160	63 ... 250
Actual current range (A) Maintained accuracy current range	0.1 ... 24	0.5 ... 75.6	0.8 ... 192	1.26 ... 300
Aperture (mm)	Ø 8.4	Ø 8.4	13.5 x 13.5	21 x 21
Dimensions (mm) (WxDxH)	28 x 20 x 45	28 x 20 x 45	25 x 32.5 x 65	35 x 32.5 x 71
Connection	RJ12	RJ12	RJ12	RJ12
Part Number	4829050020A	48290501	48290502	48290503

Solid Core	TE-45	TE-55	TE-90
			
Nominal current I_n (A) Current range which fits breaker pitch size	160 ... 630	400 ... 1000	600 ... 2000
Actual current range (A) Maintained accuracy current range	3.2 ... 756	8 ... 1200	12 ... 2400
Aperture (mm)	31 x 31	41 x 41	64 x 64
Dimensions (mm) (WxDxH)	45 x 32.5 x 86	55 x 32.5 x 100	90 x 126 x 24.6
Connection	RJ12	RJ12	RJ12
Part Number	48290504	48290505	48290506

For currents above 2000 A, use the TF CTs or the 5A / RJ12 adapter, which provides compatibility with 1A or 5A secondary CTs (48290599).

TR / iTR

Suitable for existing installations

Split Core	TR / iTR-10	TR / iTR-14	TR / iTR-21	TR / iTR-32
Added feature of monitoring corresponding breaker status with the iTR CTs TR version of Split Core CT provides a global accuracy of Class 1				
Nominal current I_n (A) Current range which fits breaker pitch size	25 ... 63	40 ... 160	63 ... 250	160 ... 600
Actual current range (A) Maintained accuracy current range	0.5 ... 90	0.64 ... 120	1.26 ... 200	4 ... 720
Aperture (mm)	Ø 10	Ø 14	Ø 21	Ø 32
Dimensions (mm) (WxDxH)	26 x 28 x 44	29 x 28 x 67	37 x 43 x 65	53 x 47 x 86
Connection	RJ12	RJ12	RJ12	RJ12
Part Number	48290555 / 48290655	48290556 / 48290656	48290557 / 48290657	48290558 / 48290658

TF

Suitable for new or existing installations with space constraints or with high currents

Rogowski Coil	TF-40	TF-80	TF-120	TF-200	TF-300	TF-600
						
Nominal current I_n (A) Current range which fits breaker pitch size	140 ... 400	150 ... 600	400 ... 2000	600 ... 4000	1600 ... 6000	1600 ... 6000
Actual current range (A) Maintained accuracy current range	2 ... 480	3 ... 720	8 ... 2400	12 ... 4800	32 ... 7200	32 ... 7200
Aperture (mm)	Ø 40	Ø 80	Ø 120	Ø 200	Ø 300	Ø 300
Connection	RJ12	RJ12	RJ12	RJ12	RJ12	RJ12
Part Number	48290573	48290574	48290575	48290576	48290577	48290578

For currents above 720 A, use the TF CTs or the 5A / RJ12 adapter, which provides compatibility with 1A or 5A secondary CTs (48290599).

DIRIS Q-800

Advanced Power Quality Analyser

The Diris Q-800 is an advanced power quality analyser with a large touch screen for local analysis and a wide range of communication protocols for remote monitoring. It has a wide range of power quality analysis functionalities such as waveform capture, harmonic analysis, voltage interruptions and event logging. The embedded web server offers real-time remote monitoring. Additionally, a free software is included for in depth network analysis and PDF report creation.

Key features and benefits

- Ergonomic interface with large touch screen allows view of real-time waveform captures
- Ability to analyse data on an embedded web server from any browser or on a free to download software
- Offers simplified connectivity with multiple communication ports and digital I/O
- 5 years equivalent of data storage with internal battery backup

Standards & Approvals

- IEC 61000-4-7 Class 1
- IEC 61000-4-30 Class A
- IEC 62586
- IEC 61557-12
- IEC 62053-22 Class 0,2s
- IEC 62053-24 Class 1
- EN 50160

Description	Part Number
DIRIS Q-800	48260100

Product Characteristics

	DIRIS Q-800
	
Dimensions W x H x D	183 x 135 x 190 mm
System type	3 Phase
Measurement range	
Input Current via CT primary / secondary	9999 A / 1 A or 5 A
Measurement range	Up to 6000A*
Input Voltage (Vp-n)	50 – 1039 V AC
Accuracy	
IEC 62586-2	Class A
IEC 61000-4-30	Class A
IEC 61557-12	Yes
IEC 62053-22 Active Energy	Class 0.2s
IEC 62053-23 Reactive Energy	Class 1
Current and Voltage	Class 0.2
Power and PF	Class 0.5 – Class 1
Frequency	Class 0.02
Total harmonic distortion	THDi , THDv and individual up to 63rd
Communication	
Protocol	RS485 (MODBUS RTU), 2x Ethernet (MODBUS TCP) and USB
Digital output / Input (tariff) number	1 / 3
Auxiliary power supply	
Voltage	100 – 240 V AC
Frequency	50 / 60 Hz
Operating temperature	-25 to +70 °C
IP Rating	IP 52

Scan this QR code for additional information

Digiware

Master your electrical installation and transform your performance with the most versatile and intelligent power monitoring system available.

The Digiware system is a unique technological innovation that has revolutionised the world of power monitoring - bringing a high degree of flexibility to installations and making connection and configuration easier than ever before.

A complete Socomec solution, Digiware delivers unrivalled performance in accuracy and functionality – whilst being tailored to your system requirements.

Unrivaled intelligence

- High overall system accuracy of 0.5 with the quick connect CTs and all one meters.
- Quick and secure connection throughout the system with RJ45 Digibus (Digiware bus).

Unique versatility

- Complete solution from current transformers to embed energy management system.
- Seamlessly combine energy metering and comprehensive power analysis in one digiware system.

Modular design

- Customisable to suit your application requirement with the ability future proofing options.
- Easily integrate with other NHP power distribution products such as transfer switches, MCCBs and ACBs.

Groundbreaking technologies for greater simplicity and performance

PreciSense

Overall class 0.5 accuracy for all digiware metering option

VirtualMonitor

Smart monitoring of your protective devices

AutoCorrect

Automatic error detection with ability for remote correction

Virtual Monitor functionality are available with

Digiware I
Associated with iTR sensors

Digiware S

Digiware BCM

The Virtual monitoring functionality enables you to monitor your circuit protection devices without the need for auxiliary contact.

Ranging from 5A to 630A, the Digiware system will send an alert for breaker status, including trips, overload current, and turn on/off on load or offload.

The integration of Virtual Monitoring and energy analysis into a single viewing platform simplifies asset management and enhances informed decision-making.

Scan this QR code for additional information

Metering and Monitoring Systems

1 Single point of access to all measurements for local or remote visualisation and analysis

Digiware D

Digiware M

+

WEBVIEW-M

2 Voltage Reference modules

Digiware Uac

3 Current acquisition modules

Digiware I

To be associated with external current sensors

Digiware S

All-in-one with 3 integrated current sensors

Digiware BCM

Branch Circuit monitoring module with 18 or 21 integrated sensors

4 Solid-Core and Split-Core current sensors

AC sensors TE, TR, iTR, TF

5 Bluetooth enviroment and door sensors

Temperature and Humidity Sensor

Magnetic Door Sensor

6 Digital and analogue input / output modules

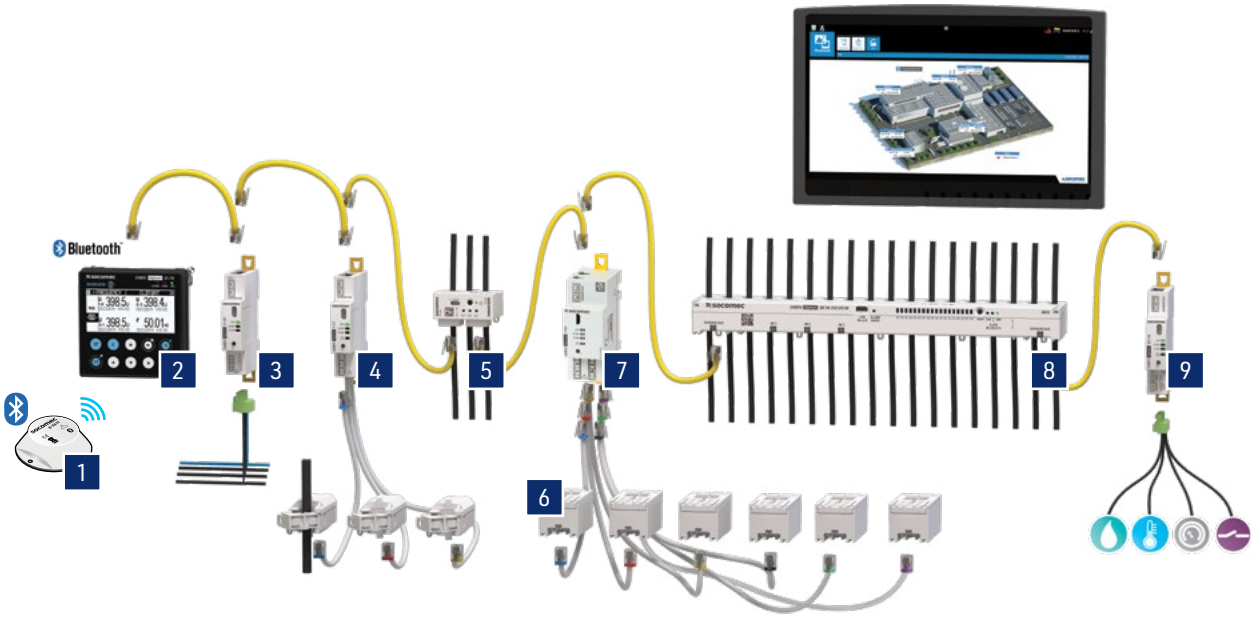
Digiware IO-10

Digiware IO-20

For assistance in product selection and design, contact your local NHP Representative.

Elevating power monitoring

Unrivaled intelligence, Unique versatlity, modular solution.



1 Environmental sensors
Digiware BLE-TRH & BLE-MAG

2 Multipoint display and communication gateway
Digiware D

3 Voltage measurement module
Digiware U

4 Current measurement module
Digiware I

5 Current measurement module with integrated sensor
Digiware S

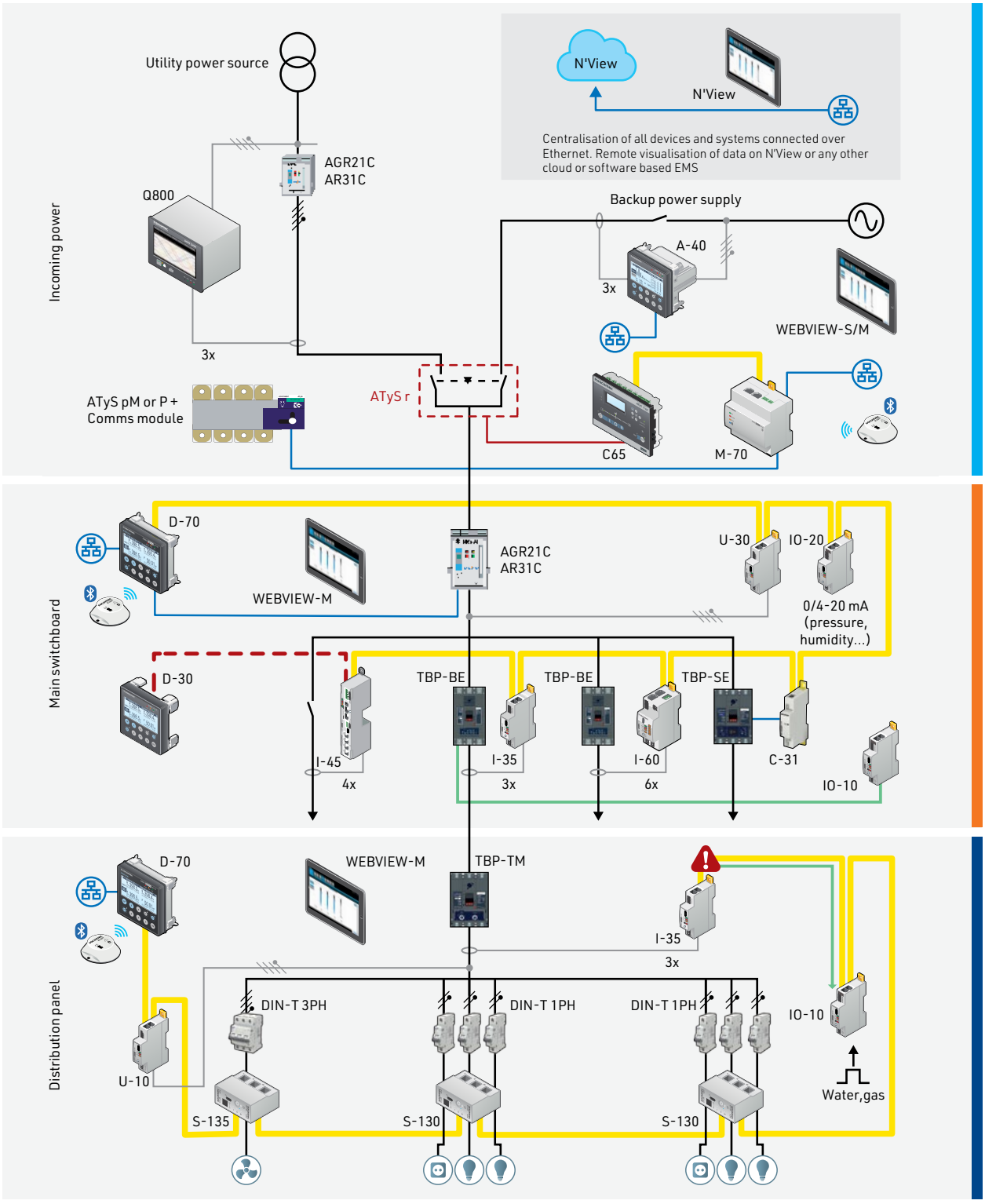
6 Current sensors
TE/TR/iTR/TF sensors

7 Current measurement module
Digiware I-60 (2x 3-phase circuits or 6x 1-phase)

8 Branch Circuit Monitoring for power distribution units
Digiware BCM

9 Digital and analogue input/output modules
Digiware IO-10/IO-20

Example of Digiware System Architecture



Legend:

Heat pump Power Lighting

Incoming power

Monitoring of the quality of the utility power source:

- Control of the quality of the energy supplied by the electricity provider
- Creation of EN50160 power quality reports
- Alarms:
  - on events (dips, cut-offs, swells)
  - locally through WEBVIEW S or remotely through WEBVIEW M
  - notifications via e-mail
- Monitoring of the backup power supply
- Monitoring and control of the transfer between the 2 sources

Main switchboard

Monitoring and control of the availability of the electrical power:

- Profiling of the electrical installation:
  - timestamped min / max values
  - unbalance
  - harmonic pollution
  - dips, cut-offs and swells
- Metering and Status Monitoring of low voltage protective devices:
  - position (open / closed)
  - counters for operations and trips
  - timestamped alarms on opening
  - option for status monitoring through SMART CTs or Auxiliary contacts
  - option for metering available through SMART MCCB or Digiware I Module
- Alarms:
  - measurements out of range
  - locally through LEDs or remotely on Webview M
  - notifications via e-mails

Distribution board

Optimisation and control of energy consumptions:

- Quantification of consumptions:
  - monitoring of load curves and maximum demand
  - multiple tariff metering
  - break-down per load, usage or utility type
- Monitoring of protective devices on terminal circuits:
  - position (open /closed)
  - counters for operations and trips
  - timestamped alarms on opening
- Alarms:
  - Electrical measurements out of range
  - locally through LEDs or remotely on Webview M
  - notifications via e-mails
- WAGES:
  - Collection of pulses from other meters such as gas or water meters
  - Consumption of other utilities is visualised on D-xx displays or WEBVIEW M
- Load shedding command
  - An excessive power consumption measured by the I-35 module activates an alarm which automatically changes the output state of the IO-10 module to send a load-shedding command to a relay.

Digiware D & M

Multipoint Display & Comms Gateways

The Digiware D and M acts as a centralising energy management system or gateway to other head devices and system interface for all downstream products. They are your point of access for measurements and configuration. The gateways can also be used to expand the system using other NHP devices such as other meters (A-40) or power distribution devices (ATyS).

Connected

- Equipped with multiple communication protocols: Modbus RTU / TCP, BACnet IP, SNMP v1, v2, v3 & Traps.
- Bluetooth connectivity to collect data from environmental sensors.

Embedded software

- WEBVIEW-M visualisation software embedded in Digiware M-70 / D-70.
- Display and analysis available from any web browser with no subscription fee.

Resilient

- Automatic data export with customisable format to any remote head end server.
- Alarms and notifications through emails with the ability remote error corrections if required.

Bonus

- Cybersecurity is integrated in all our gateways and displays to protect the confidentiality and integrity of your measurements.

	Panel Mounted Display		DIN Rail Mounted Interface and Gateway		
	D-50	D-70	C-31	M-50	M-70
					
Inputs	Digiware / RS485		Digiware	Digiware / RS485	
Outputs	Ethernet / RS485		RS485	Ethernet / RS485	
Protocols	Modbus RTU		Modbus RTU	Modbus RTU	
	Modbus TCP			Modbus TCP	
	BACnet IP			BACnet IP	
	SNMP v1, v2, v3			SNMP v1, v2, v3	
	Bluetooth through BLE version			Bluetooth	
Data export	•			•	
Webserver	WEB-CONFIG	WEBVIEW-M		WEB-CONFIG	WEBVIEW-M
Application	Local display, Gateway and repeater	Local display, Energy Management system and gateway	Repeater or converter	Gateway and repeater	Energy Management system and gateway
Part Number	48290206 (BLE)	48290207 (BLE)	48290101	48290221 (BLE)	48290222

Scan this QR code for additional information

Digiware U

Voltage Reference Modules

The Digiware U modules measure the voltage reference for the entire Digiware AC system. The RJ45 Digibus transmits the voltage measurement as well as power supply to all products connected to the Digibus.

Flexible

Complete, dedicated offer for metering, monitoring and power quality analysis.

Safe

No hazardous voltage on panel doors.

Fast

Only one voltage reference for the entire system means that cabling and fuse protection are minimised inside electrical panels.

Applications	AC Voltage Measurement	
	Metering	Analysis
	U-10	U-30
		
Measuring range (min-max)	50-300 VAC Ph / N	
Measuring Parameters		
U12, U23, U31, V1, V2, V3, f	•	•
U system, V system		•
Ph / N & Ph / Ph unbalance		•
THD U, THD V		•
Individual harmonics U / V (up to 63rd)		•
Voltage dips, interruptions and swells		•
Analysis		
Alarms (threshold)		•
History of average values		•
Format / Number of modules	18 mm / 1	18 mm / 1
Part Number	48290105	48290102

Scan this QR code for additional information

Digiware I

Quick Connect Metering Modules

The Digiware I modules are advanced single or dual DIN metering devices with RJ-12 CTs that offer energy metering, power monitoring and power quality analysis of single or three phase devices.

- Class 0.5 accuracy
- Options for single or dual 3-phase energy metering devices
- Compatible with solid core, spilt core or Rogowski coil quick connect CTs
- Autodetect CT type and size
- Ability to detect circuit breaker status with iTR CTs

Flexible

Measuring parameters available from basic metering to advanced power analysis with individual harmonics up to the 63rd order.

Compact

No matter the functionality the footprint of the metering module will be either 1-DIN or 2-DIN.

Accurate

Class 0.5 accuracy is available at a huge current range of 5A to 6000A.

Application	Metering						
	I-30	I-31	I-35	I-43	I-45	I-60	I-61
							
Number of current inputs	3	3	3	4	4	6	6
Measuring Parameters							
+/- kWh, + /- kVarh, kVAh	•	•	•	•	•	•	•
Multi-tariff (max. 8)		•	•		•		•
Load curves		•	•		•		•
Maximum demand			•		•		
I1, I2, I3, In, ∑P, ∑Q, ∑S, ∑PF	•	•	•	•	•	•	•
P, Q, S, PF per phase		•	•	•	•		•
Predictive power			•		•		
Current unbalance			•		•		
Phi, cos Phi, tan Phi			•				
THDI			•	•	•		
Individual harmonics			•		•		
Overcurrents			•		•		
Part Number	48290110	48290111	48290130	48290129	48290131	48290112	48290136

Scan this QR code for additional information

Quick Connect Current Transformers (CTs)

The wide range of quick connect Current Transformers (CT) for Digiware I metering modules. Not only does the quick connect reduce time in wiring but the autodetect of CT type and rating means less time for configuration too. The integrated technology for the quick connect CTs also guarantees an global accuracy of the meter and CT as a system.The CT types are available in Solid Core (TE), Split Core (TR/iTR) and Rogowski Coil (TF).

- High Class 0.5 system accuracy maintained for a wider secondary current range
- Quick connection with minimal error with ability to autocorrect
- Compact design made to easily match MCCB pitch size

Best-in-class accuracy

- For the global measurement chain.
- Even at low load current.

Guaranteed reliability

- Automatic detection of wiring errors.
- Remote software correction.
- Features available off-load.

Quick Connect CTs

TE

Suitable for new installations match the pitch of protective devices

Solid Core	TE-18	TE-18	TE-25	TE-35
				
Nominal current I_n (A) Current range which fits breaker pitch size	5 ... 20	25 ... 63	40 ... 160	63 ... 250
Actual current range (A) Maintained accuracy current range	0.1 ... 24	0.5 ... 75.6	0.8 ... 192	1.26 ... 300
Aperture (mm)	Ø 8.4	Ø 8.4	13.5 x 13.5	21 x 21
Dimensions (mm) (WxDxH)	28 x 20 x 45	28 x 20 x 45	25 x 32.5 x 65	35 x 32.5 x 71
Connection	RJ12	RJ12	RJ12	RJ12
Part Number	4829050020A	48290501	48290502	48290503

Solid Core	TE-45	TE-55	TE-90
			
Nominal current I_n (A) Current range which fits breaker pitch size	160 ... 630	400 ... 1000	600 ... 2000
Actual current range (A) Maintained accuracy current range	3.2 ... 756	8 ... 1200	12 ... 2400
Aperture (mm)	31 x 31	41 x 41	64 x 64
Dimensions (mm) (WxDxH)	45 x 32.5 x 86	55 x 32.5 x 100	90 x 126 x 24.6
Connection	RJ12	RJ12	RJ12
Part Number	48290504	48290505	48290506

For currents above 2000 A, use the TF CTs or the 5A / RJ12 adapter, which provides compatibility with 1A or 5A secondary CTs (48290599).

Quick Connect CTs

TR / iTR

Suitable for existing installations

Split Core	TR / iTR-10	TR / iTR-14	TR / iTR-21	TR / iTR-32
Added feature of monitoring corresponding breaker status with the iTR CTs TR version of Split Core CT provides a global accuracy of Class 1				
Nominal current I_n (A) Current range which fits breaker pitch size	25 ... 63	40 ... 160	63 ... 250	160 ... 600
Actual current range (A) Maintained accuracy current range	0.5 ... 90	0.64 ... 120	1.26 ... 200	4 ... 720
Aperture (mm)	Ø 10	Ø 14	Ø 21	Ø 32
Dimensions (mm) (WxDxH)	26 x 28 x 44	29 x 28 x 67	37 x 43 x 65	53 x 47 x 86
Connection	RJ12	RJ12	RJ12	RJ12
Part Number	48290555 / 48290655	48290556 / 48290656	48290557 / 48290657	48290558 / 48290658

For currents above 720 A, use the TF CTs or the 5A / RJ12 adapter, which provides compatibility with 1A or 5A secondary CTs (48290599).

TF

Suitable for new or existing installations with space constraints or with high currents

Rogowski Coil	TF-40	TF-80	TF-120
			
Nominal current I_n (A) Current range which fits breaker pitch size	140 ... 400	150 ... 600	400 ... 2000
Actual current range (A) Maintained accuracy current range	2 ... 480	3 ... 720	8 ... 2400
Aperture (mm)	Ø 40	Ø 80	Ø 120
Connection	RJ12	RJ12	RJ12
Part Number	48290573	48290574	48290575

Rogowski Coil	TF-200	TF-300	TF-600
			
Nominal current I_n (A) Current range which fits breaker pitch size	600 ... 4000	1600 ... 6000	1600 ... 6000
Actual current range (A) Maintained accuracy current range	12 ... 4800	32 ... 7200	32 ... 7200
Aperture (mm)	Ø 200	Ø 300	Ø 300
Connection	RJ12	RJ12	RJ12
Part Number	48290576	48290577	48290578

Digiware S & Digiware BCM

All-in-one Metering & Current Sensing Devices

Designed for branch circuit monitoring within distribution board the Digiware S and BCM modules are a compact all-in-one metering and current sensing modules.

- Class 0.5 accuracy
- Monitors single phase or three phase up to 80A
- Ability to configure without powering on with the ability to autodetect error and correct remotely
- Added flexibility with options of levels metering (basic energy metering or analysis)
- Ability to detect circuit breaker status

3x

3x quicker to install than standard solutions

- No wiring is required.
- Quick RJ45 connection.

2x

2x quicker to configure than standard solutions

- Configuring multiple measuring points is quick and easy with the "duplicate" functionality in the free to download software Easy Config.

Maximum reliability

- An 0.5 accuracy class for active energy in accordance with the IEC 61557-12 standards, providing accurate measurements over a wide range of current.

Product Characteristics

	S-130	S-135	BCM-1818	BCM-1818VM
				
Number of current inputs	3	3	18 + 3x RJ12[1]	18 + 3x RJ12[1]
I_{nom} & I_{max}	10A & 63A	10A & 63A	63A & 80A	
Measuring Parameters				
+/-kWh, + /-kvarh, kvah	•	•	•	•
Multi-tariff (max. 8)		•	•	•
Load curves		•	•	•
I1, I2, I3, In, ∑P, ∑Q, ∑S, ∑PF	•	•	•	•
P, Q, S, PF by phase		•	•	•
Predictive power		•	•	•
Current unbalance		•	•	•
Phi, cosPhi, tanPhi		•	•	•
Virtual Monitor[2]	•	•		•
THD I		•	•	•
Individual harmonics I		•	•	•
Overcurrents		•	•	•
Alarms (threshold)		•	•	•
History of average values		•	•	•
Part Number	48290160	48290161	48290165	48290166

Note:

1. 3x RJ12 for mains or total distribution board measurements
2. Virtual monitor refers to circuit breaker status monitoring

Scan this QR code for additional information

Digiware IO

Input/Output & Bluetooth Modules

The digiware IO modules allow for the expansion of the Energy management system to include water and gas monitoring, environmental monitoring or auxiliary status monitoring.

The IO-10 modules have 4 digital inputs and 2 digital outputs to monitor the status of protective devices (ON / OFF / TRIP) or to collect pulses from water and gas meters (WAGES).

The IO-20 modules have 2 analogue inputs allowing the collection of measurements from analogue sensors (pressure, humidity, temperature) and the monitoring of levels by setting up alarms on preset thresholds.

Load shedding

- IO-10 modules automatically send output signals when an alarm is activated on any other Digiware module.
- Example: automatic load shedding if a power consumption alarm is configured on a Digiware I module.

Preventative maintenance

- Add switchboard health monitoring with temperature or humidity sensing.
- Auxiliary circuit breaker monitoring can be added with harmonic analysis to empower decision makes with additional information.

Added flexibility

- Environmental monitoring can also be completed through Bluetooth modules.
- More data with less wiring.

Product Characteristics

	IO-10	IO-20
Scan this QR code for additional information		
Applications	Monitoring	Metering
Number of digital inputs / outputs	4 / 2	-
Number of analogue inputs	-	2
Multi-tariff (max. 8)	•	
Alarms (threshold)	•	•
Alarms (change of status)	•	
History of average values		•
Format / number of modules	18 mm / 1	18 mm / 1
Part Number	48290140	48290145

Bluetooth sensors

The BLE-TRH and BLE-MAG are sensors that communicate with Digiware M gateways and Digiware D displays wirelessly via Bluetooth.

Scan this QR code for additional information

The B-TRH sensor monitors ambient temperature and humidity and alerts you if high levels are exceeded.

Part Number: 48290800

The B-Mag sensor alerts you in case the door of an electrical panel or restricted technical room is opened.

Part Number: 48290801

WEBVIEW M

Webview M allows for configuration, analysis and control of a full digiware solution with no subscription fee or additional software. Embedded in the Digiware D-70 or M-70 devices, all its functionality is available for remote access from any web browser.

Monitoring

- Visualisation of real-time measurements.
- Power quality analysis of the electrical network and loads.
- Visualisation of measurements on a user-customisable dashboard.

Alarming

- Overview of active alarms.
- Log of finished alarms.
- Email notification when a new alarm is activated.

Analysis

- High storage capacity of consumption and measurement trends.
- Breakdown of consumption by location, usage and utility type.
- Export of stored data in CSV format.

Embedded web based software

- No installation required and no licence free: WEBVIEW-M is embedded in Digiware M-70 and D-70.

Cyber security

- New cyber security features secure the confidentiality, integrity and availability of data.

Photoview functionality

- Display of electrical parameters from multiple devices on a customised background.

NHP Commissioning

NHP's commissioning service for energy management systems offers a comprehensive solution to ensure your system is optimized for accurate and efficient data collection.

Our expertise in commissioning guarantees that you have the data acquisition requirements met so you can focus on analysis and decision-making.

Advantages of NHP Commissioning

- System design to ensure you have the devices you need for the required data analysis
- Configuration, set-up and commissioning to ensure Energy management requirements are met from the beginning
- Automated reporting, alarms and alerts set up for streamline continuous monitoring

With NHP commissioning our team will assist you to achieve optimal performance and maximize the value of your energy data.

Australia
nhp.com.au
1300 647 647

New Zealand
nhpnz.co.nz
0800 647 647