



PowerTag

Application Guide & Catalogue

The world's smallest wireless energy sensor



schneider-electric.co.nz/powertag

Life Is On

Schneider
Electric



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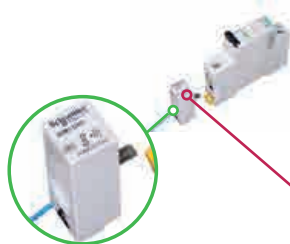
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PowerTag Application guide



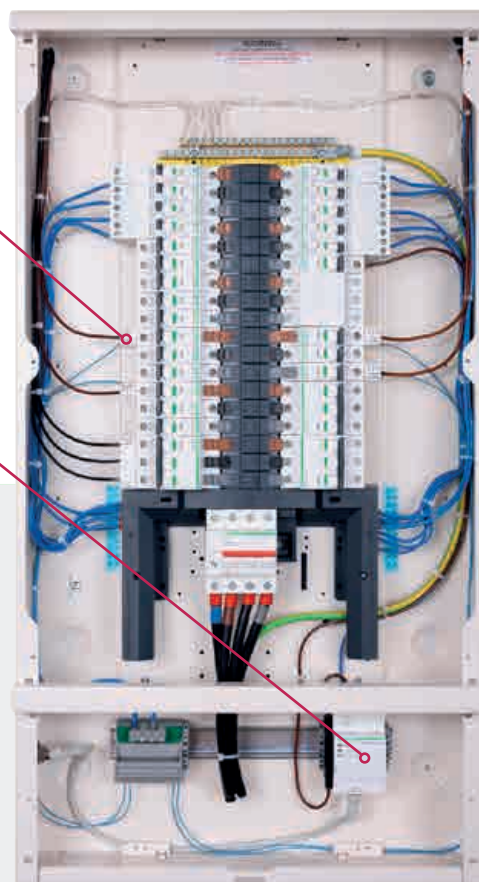
PowerTag - Wireless energy sensors on outgoing

- U, I, V, P values
- Active energy partial and total values, Class 1 accuracy
- Wireless communication
- Voltage loss alarm
- Load balance



Acti 9 Smartlink SI-D - Wireless access point

- Concentrates upto x20 PowerTag sensors
- Ethernet connection (Modbus TCP/IP)
- 230 V AC power supply, 54 mm wide



Your need

A solution with the smallest footprint, a low investment to match energy regulations and monitor main circuits.

Our solution

PowerTag wireless energy sensors for <63 outgoing monitoring.

Benefits

- The right level of monitoring at the right place
- Class 1 energy measurement
- Wiring reduced to the essential
- Smallest footprint, fitting in existing panels
- Standalone system with no additional software required
- Open system compatible with your BMS/EMS

Preferred application

- Office buildings
- Administration
- Healthcare
- Hotels
- Education

More about PowerTag

schneider-electric.co.nz/powertag

Implement your simple solution in a few steps



Installation

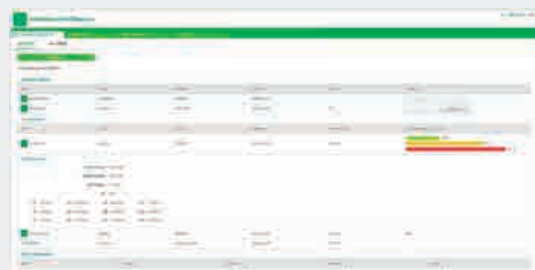
Outgoer energy sensor

- PowerTag sensors can be installed with no space lost inside the distribution board
- Wireless communication with Smartlink Si D simplify the wiring



Commissioning

- Free commissioning software for PowerTags
- Easy to use communication test report



Operation

- Email 25 different alarms:
 1. Overload 50% or 80%
 2. Voltage loss and
 3. Specific thresholds of U,I,V,PF
- Instant values of U,I,V,PF,E available on web pages
- Class 1 accuracy to identify precisely where to save energy

Product	Description	Cat. no.
PowerTag	Energy sensor - 3P	A9MEM1540
PowerTag	Energy sensor - 1P with neutral lead	A9MEM1520
Top or Bottom Extension kit	Acti 9 Smartlink Si D, terminal block, communication & power cables	A9PTGEXTNP
or Side extension kit	Acti 9 Smartlink Si D, terminal block, communication & power cables	A9PTGRK

PowerTag Functions and configuration



Test software: Acti 9 Smart Test

- Electrical continuity test (cabling of connected devices)
- Communication Testing of wired, wireless devices, analog and Modbus devices..
- Editing of a complete test report (Excel, pdf) with the Modbus communication registers for easy integration into a supervision system
- Windows XP, Windows 7, Windows 8 and Windows 10 compatible
- Downloadable from: schneider-electric.com



IEC 61557-12 PMD/DD/K55/1

PowerTags are energy sensor modules for 1P, 1P+N, 3P and 3P+N networks. They are mounted directly on equipment of the Acti 9 or Multi 9 range at intervals of 18 mm up to 63 A.

Functions

Combined with Acti 9 Smartlink SI B (Ethernet) or Acti 9 Smartlink SI D (Ethernet) by radio-frequency communication, PowerTag sensors measure the following values in accordance with the IEC 61557-12 standard

- Cumulative active energy, total and partial (kWh).
- Rms values:
 - phase-to-neutral and phase-to-phase voltages (V),
 - currents per phase (A),
 - total active power and active power per phase (W),
 - power factor.

Installed upstream or downstream of a protective device, they measure useful data for diagnosis of the associated circuit.

- Class 1 measurement accuracy of energy and current, and class 0.5 of voltage

Configuration

- Recognition of the device in the Acti 9 Smart Test configuration software: the product flashes in the switchboard during configuration for easy recognition.
- Addition of context-related information to Acti 9 Smart Test (name of the load, energy usage, single-line circuit label).
- Partial energy counter can be reset or preset to a special value via the software.

Integration in Acti 9 Smartlink

- Use of a wireless concentrator to report data:
 - Acti 9 Smartlink SI B (Ethernet) for a complete metering, monitoring and control solution,
 - Acti 9 Smartlink SI D (Ethernet) for a metering and monitoring solution only.
- Native display, in Smartlink's embedded web pages, of the quantities measured by the PowerTag sensors.
- Load monitoring
 - alarm sent by the sensor in the event of a voltage loss,
 - pre-alarms on predefined thresholds (50 %, 80 %) or customized thresholds (thresholds on currents, power, voltages and cumulative energies).
- Alarm management on current/voltage/load level thresholds by e-mail.
- Display of alarms and pre-alarms on Smartlink embedded web pages.
- Easy integration into system with Com'X200, Com'X 510 and other Schneider Electric software and third-party Building Management Systems (BMS's) thanks to the Acti 9 Smart Test report in Excel format. This report provides dynamically all the Modbus registers, including bits and meanings associated, for an easy integration into the software.
- Remote metering possible using the Smartlink monitoring page.

Catalogue numbers

PowerTag		
Type	Type of mounting	Cat. no.
1P	Top and bottom	A9MEM1520
1P+N	Top	A9MEM1521
	Bottom	A9MEM1522
3P	Top and bottom	A9MEM1540
3P+N	Top	A9MEM1541
	Bottom	A9MEM1542



PowerTag Functions and configuration



Metering and monitoring and control

Acti 9 Smartlink SI B (Ethernet)

PB113286-175



Embedded web pages

- Monitoring display
- Alarm management and display
- E-mail sending

Integrated Modbus gateway

Channels for monitoring/control

- Contactors, OF/SD devices, analog sensors

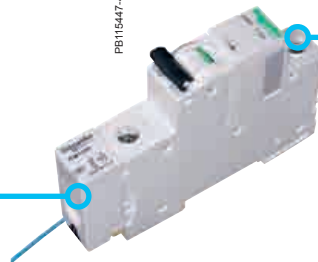
Compatible products

"Single terminal" circuit breakers and switches at intervals of 18 mm, ratings less than or equal to 63 A:

- Acti 9 : iC60/iID/iID K/iSW (< 63 A)/iSW-NA/Reflex iC60/iK60/i65N-K
 - Multi9 : C32/C45/C60/K60/iD/iSW/I-NA
 - DT60
- See catalogue module CA908058



PB115447-40



PowerTag

- Radio frequency communication
- Up to 20 sensors connected

Metering and monitoring only

Acti 9 Smartlink SI D (Ethernet)

Embedded web pages

- Monitoring display
- Alarm management and display
- E-mail sending

- Installation on DIN rail
- 230 V AC power supply

PowerTag

- Radio frequency communication
- Up to 20 sensors connected

Compatible products

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- Acti 9 : iC60/iID/iID K/iSW (< 63 A)/iSW-NA/Reflex iC60/iK60/i65N-K
 - Multi9 : C32/C45/C60/K60/iD/iSW/I-NA
 - DT60
- See catalogue module CA908058

PB115447-40



ASXNWA2035



PowerTag Technical characteristics



PB115448-40



Technical characteristics

Main characteristics

Rated voltage	Un	Phase-to-neutral	230 V AC \pm 20 %
		Phase-to-phase	400 V AC \pm 20 %
Frequency			50/60 Hz
Maximum operating current	I _{max}		63 A
Saturation current			130 A
Maximum consumption			\leq 2 VA
Starting current	I _{st}		40 mA
Base current	I _b		10 A

Additional characteristics

Operating temperature			-25°C to +60°C
Storage temperature			-40°C to +85°C
Overvoltage category	As per IEC 61010-1		Cat. III
Measuring category	As per IEC 61010-2-30		Cat. III
Pollution degree			3
Altitude			\leq 2000 m
Degree of protection	Device only		IP20
	IK		05

Radio-frequency communication

ISM band 2.4 GHz			2.4 GHz to 2.4835 GHz
Channels	As per IEEE 802.15.4		11 to 26
Isotropic Radiated Power	Equivalent (EIRP)		0 dBm
Maximum transmission time			< 5ms
Channel occupancy	For 1 device		Messages sent every 5 seconds

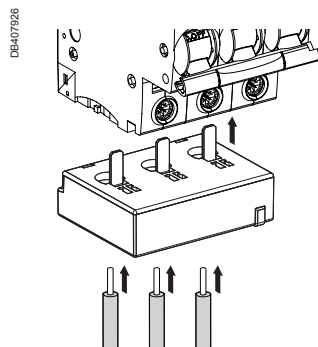
Characteristics of measuring functions

Function	Performance category as per IEC 61557-12		
Active power	P	1	9 W to 63 kW
Active energy	Ea	1	Total and partial 0 to 99999999.9 kWh
Current	I	1	2 A to 63 A
Voltage	U	0.5	Un \pm 20 %
Power factor	PFA	1	0 to 1

PowerTag Dimensions



Connection

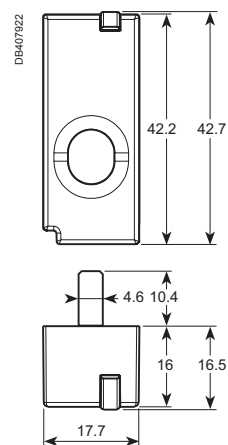


Stripping length	Copper cables					
	Rigid		Flexible		Flexible with ferrule	
	DB122945	DB112804	DB123553	DB112805	DB123554	DB112806
18 mm(*)						
18 mm	-	-	-	-	1.5 to 16 mm²	2 x 1.5 to 2.5 mm²

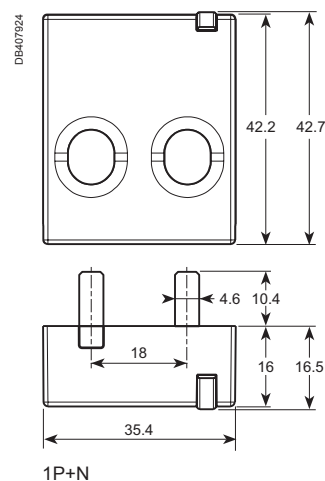
■ Mounting with 18 mm ferrule recommended.

■ (*) Without ferrule/cable ends, respect the stripping length stated on the associated products.

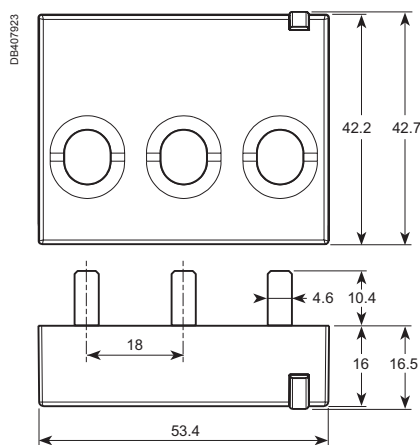
Dimensions (mm)



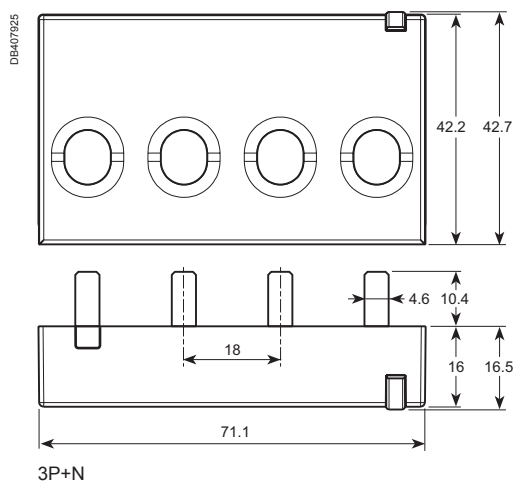
1P



1P+N



3P



3P+N

Weight (g)

PowerTag	
Type	
1P	16.4
1P+N	17.5
3P	28
3P+N	35

PowerTag Extension kits OP



Top/bottom extension kit for Acti9 Isobar type B boards

Main characteristics	
Cat. no	A9PTGEXTNP
Height (mm)	185
Width (mm)	490
Depth (mm)	115

Major components Include:

- 230V AC Acti 9 Smartlink SID: A9XMWA20
- Distribution block fitted for neutral connection of 1P with neutral wire
PowerTags (1P+N, 3P & 3P+N PowerTags do not have neutral connection)
- RJ45 industrial Ethernet connector fitted for quick and easy connection



Side Extension kit for Acti9 Isobar type B boards

Main characteristics	
Cat. no	A9PTGRK
Height (mm)	340
Width (mm)	135
Depth (mm)	115

Major components Includes:

- 230V AC Acti 9 Smartlink SID: A9XMWA20
- Distribution block fitted for neutral connection of 1P with neutral wire
PowerTags (1P+N, 3P & 3P+N PowerTags do not have neutral connection)
- RJ45 industrial Ethernet connector fitted for quick and easy connection



**230V AC
Smartlink SID**



Distribution block



**RJ45 Industrial
Ethernet connector**

Notes

A photograph of a man in his late 20s or early 30s, smiling broadly and looking upwards and to the left. He is wearing a yellow hard hat and clear safety glasses around his neck. He is holding a black smartphone in both hands, positioned in front of his chest. The background is a blurred industrial or construction site. The entire image is covered with a semi-transparent green filter. The text "Life Is On" is centered in white, with the "O" replaced by a power button symbol.

Life Is On

About Schneider Electric

Schneider Electric is the global specialist in energy management and automation. With revenues of €27 billion in FY2015, our 160,000+ employees serve customers in over 100 countries, helping them to manage their energy and process in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies reshape industries, transform cities and enrich lives.

At Schneider Electric, we call this Life Is On.

Schneider Electric

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