

Overview

Dynamox ESA is an innovative asset condition monitoring solution for critical industrial equipment. Leveraging purely non-invasive electrical variables, Dynamox ESA identifies degradation processes in electrical assets months in advance, preventing them from escalating into catastrophic failures.

Compatible with most electrical machines currently deployed in power generation systems and industrial manufacturing, the solution drives operational reliability, safety, and predictability, optimizing performance while maximizing asset lifespan.



Monitored Assets

- Synchronous and Asynchronous Motors
- Power and Distribution Transformers
- Generators
- Wind Turbines
- Frequency Inverters
- Photovoltaic Solar Panels
- BESS (Battery Energy Storage System)

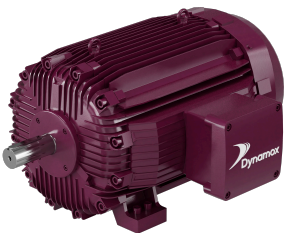
Electrical Signature Analysis

- Non-invasive solution, installed directly at the equipment's power supply
- Smart algorithms for all electrical machines
- No historical data or learning period required
- Real-time online monitoring
- Early detection of potential failures
- Boosts efficiency
- Reduces downtime
- Decreases unplanned maintenance
- Lowers maintenance costs

Asynchronous Motor

PN 204001-MACP | 204001-MASP

SOLUTION COMPONENTS



3x Low-voltage current sensors

1x PAS CORE (see page 7)

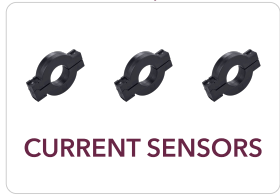
1x P3V3AM (see page 9)

1x Power Supply

1x 500x400mm Panel

0 - 690V
3V (Voltage)

3I (Current)



+/- 10 V

1 BOX



Synchronous Motor

PN 204001-MSCP

SOLUTION COMPONENTS



3x Low-voltage current sensors

1x DC Current Sensor

1x PAS CORE (see page 7)

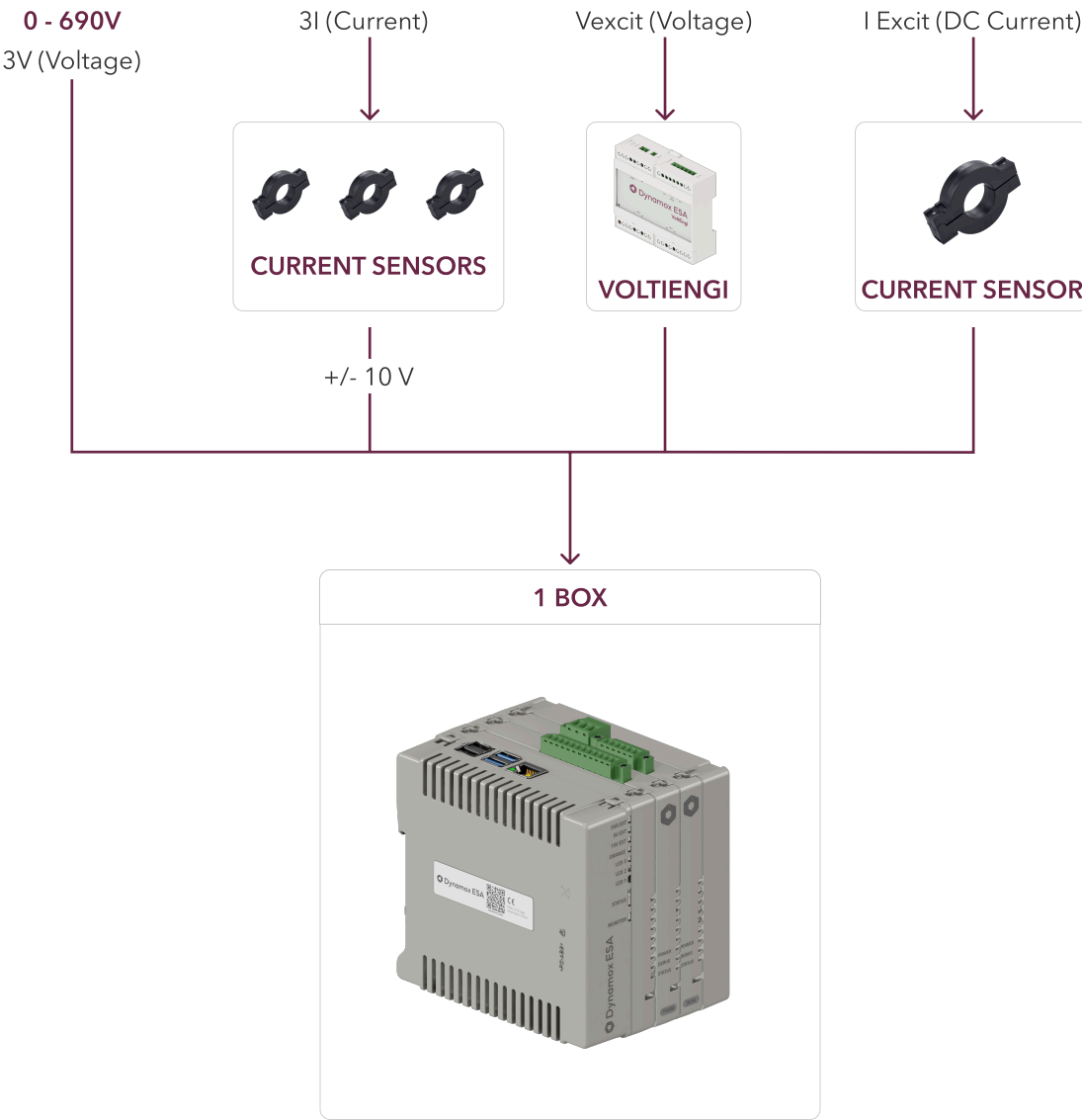
1X P6AM (see page 8)

1x P3V3AM (see page 9)

1X VoltEngi (see page 13)

1x Power Supply

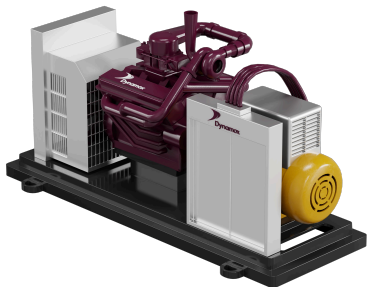
1x 500x400mm Panel



Generator

PN 204003-GCP

SOLUTION COMPONENTS



3x Low-voltage current sensors

1x 4-20mA Sensor

1x PAS CORE (see page 7)

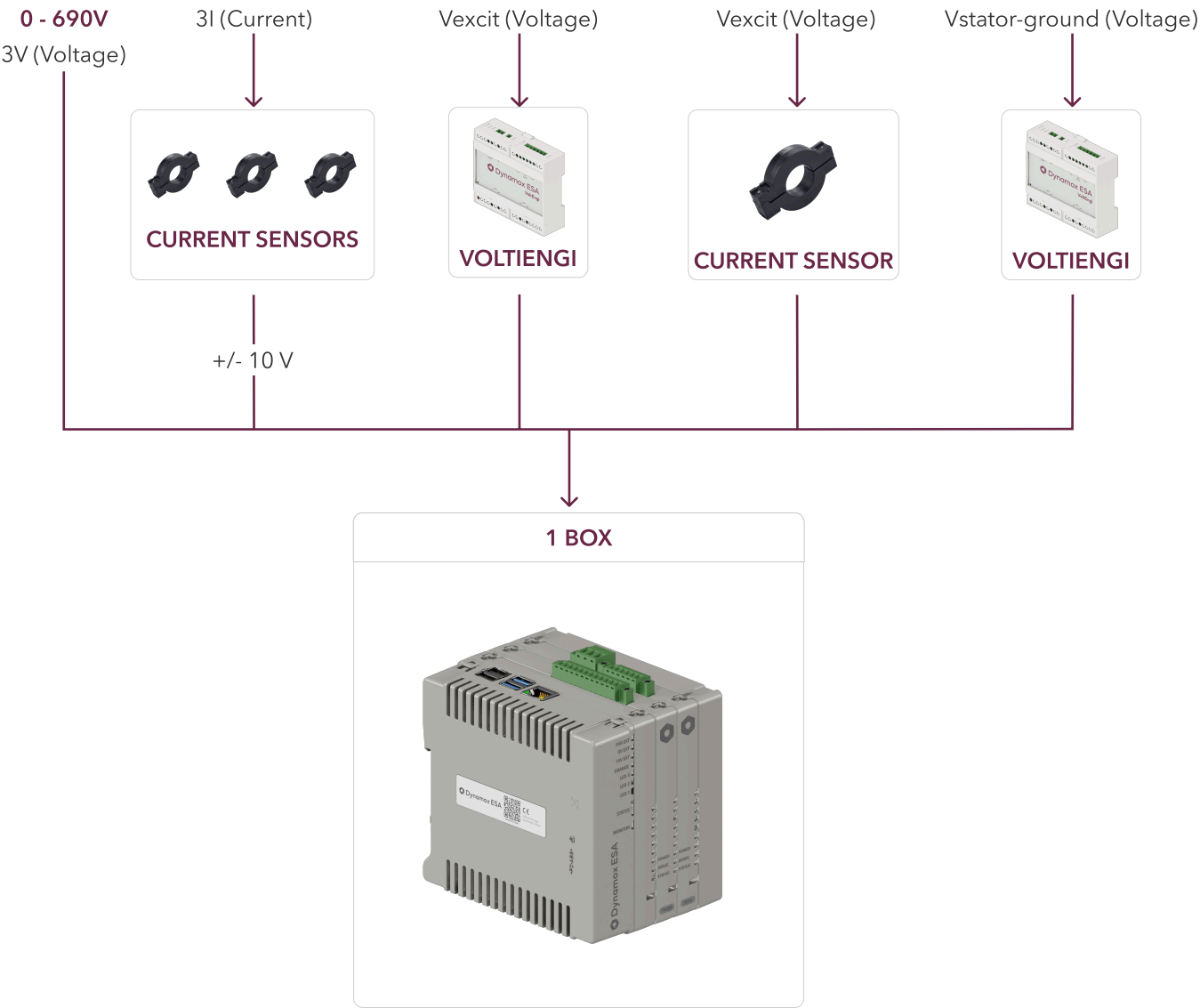
1X P6AM (see page 8)

1X P3V3AM (see page 9)

2X VoltEngi (see page 13)

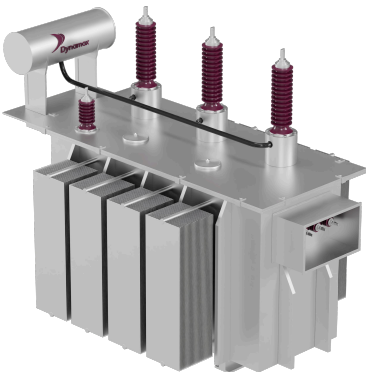
1x Power Supply

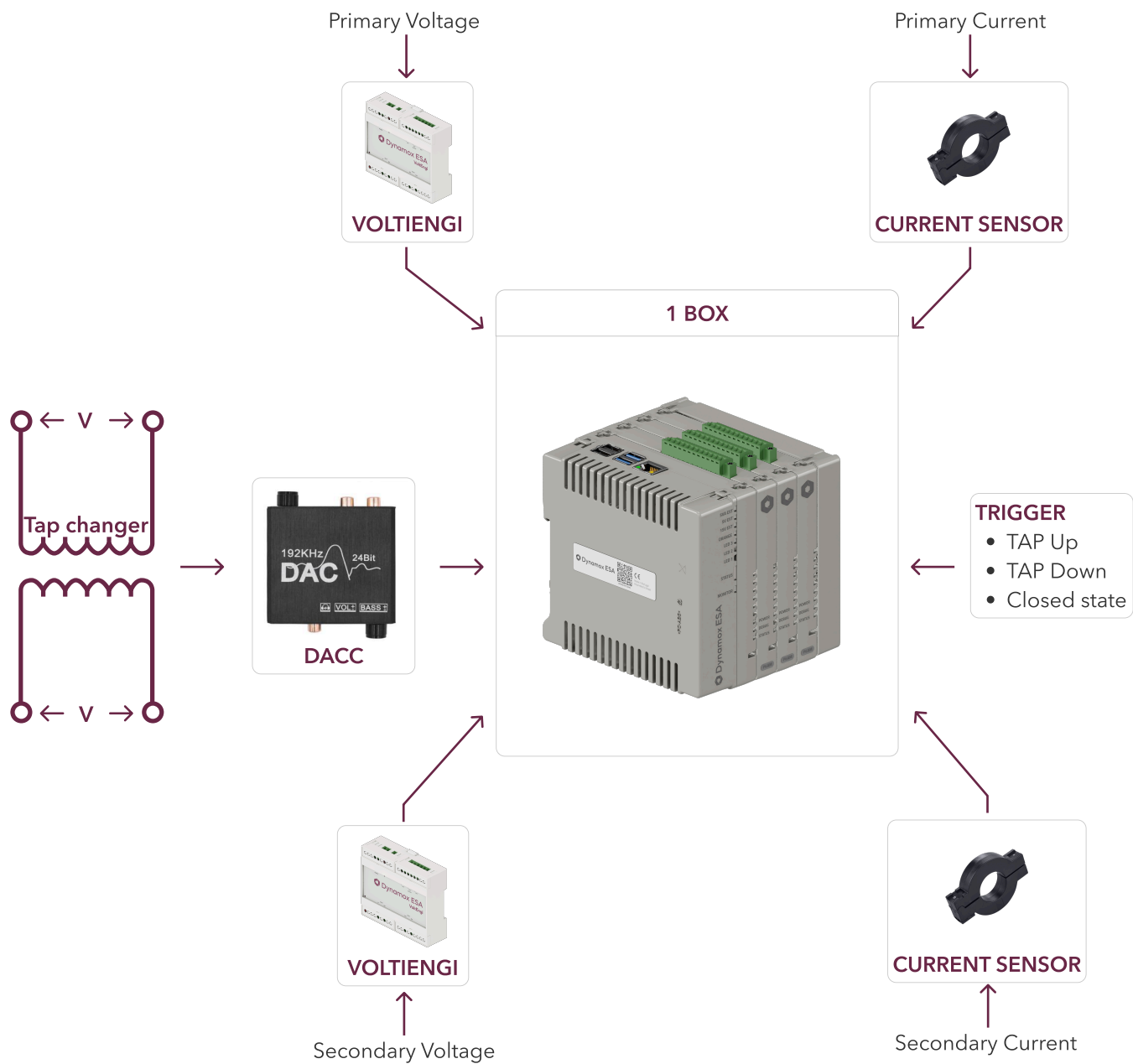
1x 500x400mm Panel



Power Transformer

PN 204002-TPCP

	SOLUTION COMPONENTS
	1x PAS CORE (see page 7)
	3X P6AM (see page 8)
	6x Current Sensors
	2X VoltEngi (see page 13)
	1X DACC/BCD
	1x Power Supply
	1x 500x400mm Panel



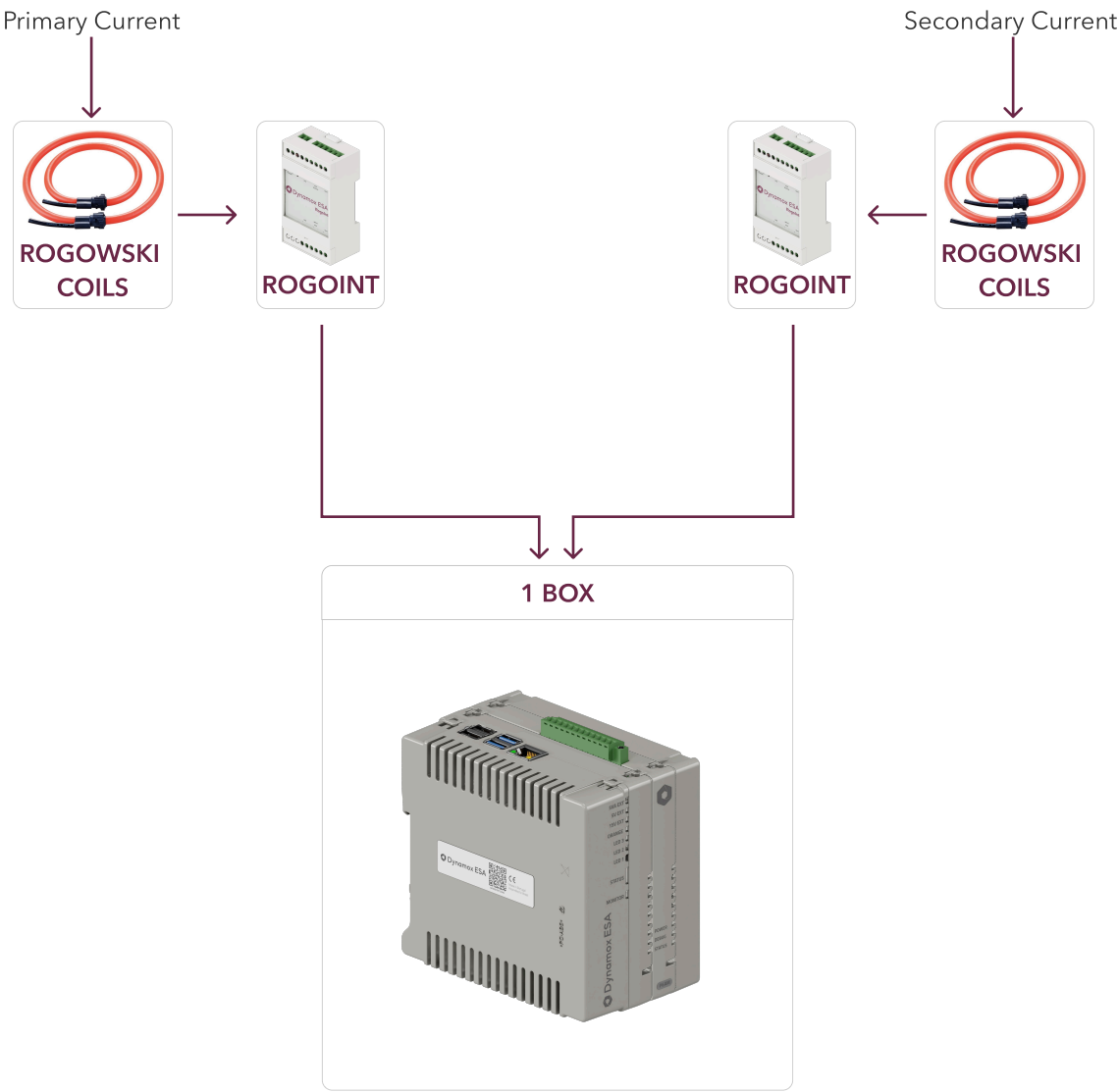
Distribution Transformer

PN 204002-TDCP / 204002-TDSP

SOLUTION COMPONENTS



- 1x PAS CORE (see page 7)
- 1X P6AM (see page 8)
- 6x Rogowski Coils
- 2X RogoInt (see page 11)
- 1x Power Supply
- 1x 500x400mm Panel



PAS Core - Communication Module

POWER REQUIREMENTS	
Power Supply	24 VDC Input Reset
Protection	Overvoltage Overcurrent Reverse Polarity
Connector	Terminal Block

RESET INPUT	
Interface	Digital Input
Voltage Level	24 VDC
Number of Channels	1
Accuracy	+/- 0.5%
Protection	Overvoltage Overcurrent Reverse Polarity
Connector	Terminal Block

TRIGGER INPUT	
Interface	Digital Input
Voltage Level	24 VDC
Number of Channels	4
Accuracy	+/- 0.5%
Protection	Sobretensão Sobrecorrente Overcurrent
Connector	Terminal Block

ETHERNET COMMUNICATION	
Interface	RJ45 Ethernet
Protocol	TCP/IP for data and server communication
Data Rate	10/100/1000 MBPS

MEMORY STORAGE	
Storage	32GB (16, 64, or 128GB options)
RAM	2GB (1, 4, or 8GB options)
External Storage	MicroSD Card

ENVIRONMENTAL	
Usage	Indoor use only
Operating and Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH, non-condensing
RoHS Compliant	Yes

Six-Channel Acquisition Module (PAS 6AM)

Analog Signal Acquisition Module

Connector to measure up to 6 analog channels with a range of up to +/- 14 V

LED Indicators

Indicates operating and power status

POWER REQUIREMENTS	
Power	Internally Powered
TRIGGER INPUT	
Connection	Internally Connected
COMMUNICATION	
Connection	Internally Connected
MEMORY STORAGE	
Storage	2 MB (4 MB option)
RAM	2514 kB
External Storage	Not applicable
ANALOG INPUT	
Number of Channels	6
Input Range	+/- 14V
Sampling Rate	Up to 200KHz
Sampling Period	Up to 80s@2.5kHz
Resolution	16 Bits
Connector	Terminal Block
ENVIRONMENTAL	
Usage	Indoor use only
Operating and Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH, non-condensing
RoHS Compliant	Yes

PAS 3V3AM - 3-Voltage, 3-Current Module

Low-Voltage Analog Acquisition Channel

Connector to measure up to 3 analog channels with a range of up to +/- 14V.

High-Voltage Analog Acquisition Channel

Connector to measure up to 3-phase voltages with a range of up to +/- 1000V.

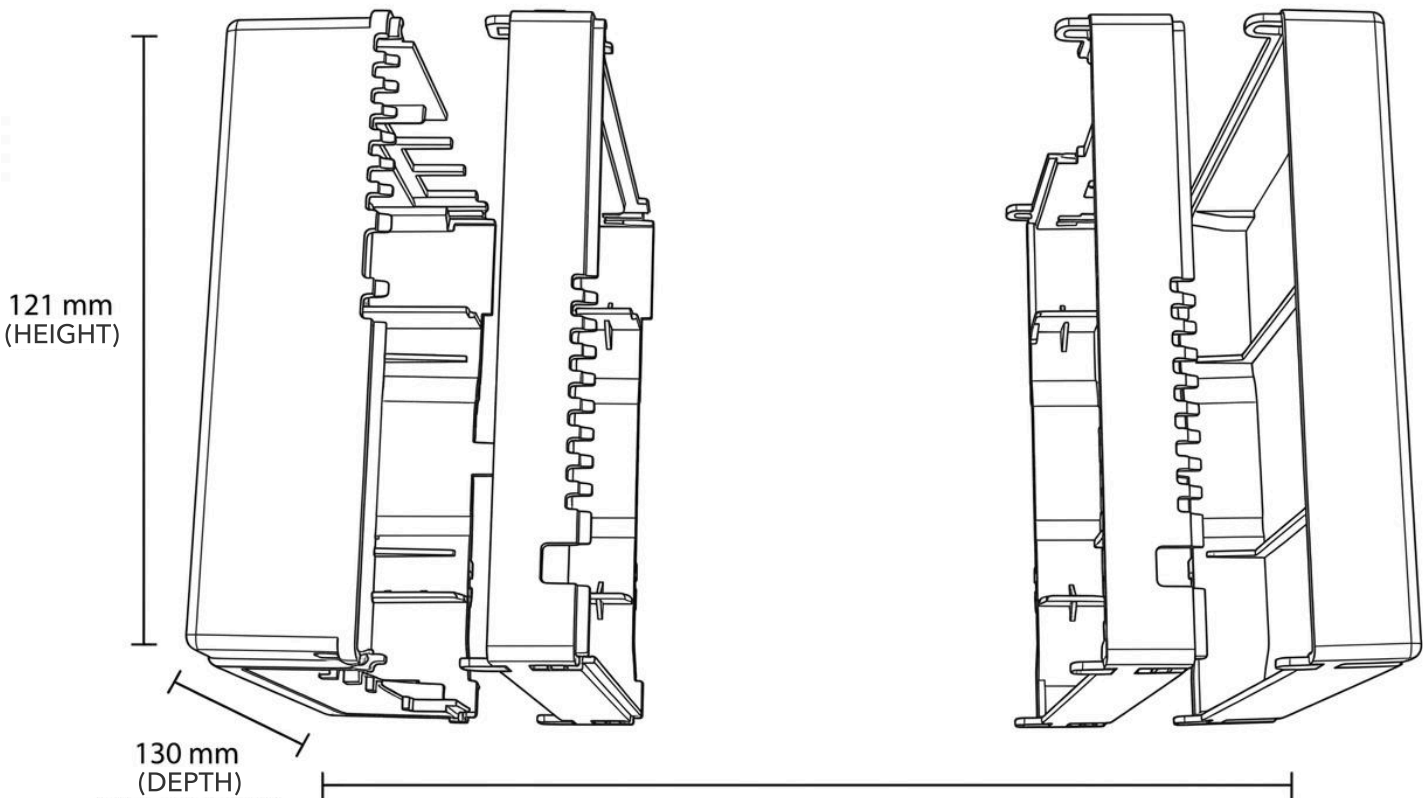
LED Indicators

Indicates the current operating status of the PAS 3V3AM

Indicates the product's power status

POWER REQUIREMENTS	
Power	Internally Powered
TRIGGER INPUTS	
Connection	Internally Connected
COMMUNICATION	
Connection	Internally Connected
MEMORY STORAGE	
Storage	2 MB (4 MB option)
RAM	2514 kB
External Storage	Not applicable
ANALOG INPUT	
Number of Channels	3 Low Voltage
	3 High Voltage
Input Range	Low Voltage up to +/- 14V
	High Voltage up to +/- 1000V
Sampling Rate	Up to 200kHz
Sampling Period	Up to 80s@2.5kHz
Resolution	16 Bits
Connector	Terminal Block
ENVIRONMENTAL	
Usage	Indoor use only
Operating and Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH, non-condensing
RoHS Compliant	Yes

Technical Drawing



Dimensions in millimeters

*N -Number of modules

PHYSICAL CHARACTERISTICS	
Weight	355g + N*264g
Enclosure	PC-ABS
IP Rating	IP20

Rogolnt

Analog Input

Analog input channels corresponding to the Rogowski coil signals to be measured.

Analog Output

+/- 7V analog voltage output signals converted from the input signal.

DC Power LED

Power Supply

24V DC power supply for the device.

POWER REQUIREMENTS	
Input Voltage Range	22 V SC to 26 V SC
Power Consumption	2 W (máx.)
Protection	Overvoltage Overcurrent Reverse Polarity
Connector	Terminal Block
Stripping length	6 mm
Wire selection	0,05 - 3,31mm² (30-12 AWG)
Torque	0,5 Nm (5 Lb. In)

PHYSICAL SPECIFICATIONS	
Dimensions	(90 x 53 x 32) mm
Weight	100g
Enclosure	Polycarbonate
IP Rating	IP20

ANALOG INPUT	
Number of Channels	3
Input Range	+/- 0,5V (Default Configuration)
Accuracy	+/- 0,5%
Power Consumption	0,3 W (máx.)
Protection	Overvoltage
Connector	Terminal Block
Strip Length	6 mm
Wire Gauge	0,05 - 3,31mm² (30-12 AWG)
Torque	0,5 Nm (5 Lb. In)

ENVIRONMENTAL	
Usage	Indoor use only
Operating and Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH, non-condensing
RoHS Compliant	Yes

ANALOG OUTPUT	
Number of Channels	3
Output Range	+/- 7V
Connector	Terminal Block
Strip Length	6 mm
Wire Gauge	0,05 - 3,31mm² (30-12 AWG)
Torque	0,5 Nm (5 Lb. In)

Analog Input

±1200 V analog input channels for voltage signal measurement.

Analog Output

±10 V analog output signals converted from input voltages.

Power Supply

24V DC power supply for the device.

POWER REQUIREMENTS	
Input Voltage Range	22 V DC to 26 V DC
Power Consumption	1 W (máx.)
Protection	Overvoltage Overcurrent Reverse Polarity
Connector	Terminal Block

PHYSICAL SPECIFICATIONS	
Dimensions	(90 x 53 x 32) mm
Weight	100g
Enclosure	Polycarbonate
IP Rating	IP20

ANALOG INPUT	
Number of Channels	3 Phase-to-Phase or Phase-to-Neutral (factory defaults)
Input Range	±1200 V (factory defaults)
Accuracy	+/- 0,5%
Power Consumption	0,3 W (máx.)
Protection	Overvoltage
Connector	Terminal Block

SAÍDA ANALÓGICA	
Number of Channels	3
Output Range	± 10 V
Connector	Terminal Block

ENVIRONMENTAL	
Usage	Indoor use only
Operating and Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH, non-condensing
RoHS Compliant	Yes

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