

ABB monitoring and communications PVI-AEC-EVO



PVI-AEC-EVO is the low cost solution for remote monitoring of PV plants with all ABB devices.

The modular and expandable architecture combined with the din-rail mounting system makes the PVI-AEC-EVO suitable for any kind of installation in PV plants where ABB inverters and Stringcomb have been installed.

The communication between the PVI-AEC-EVO and all other ABB devices is based on the proprietary Aurora Protocol while environmental data can be obtained by connecting analog sensors directly to the three available analog inputs.

Six digital inputs are also provided by PVI-AEC-EVO to connect a pulse counting meter as well as to detect specific status inputs.

Moreover, the presence of digital outputs allows PVI-AEC-EVO to satisfy the need of generating impulse signals, status signals or relay outputs.

The built-in 2 x 16 characters display along with the integrated Web User Interface, accessible via LAN connection, makes the system to be easy configured

Operating as gateway the PVI-AEC-EVO sends all data collected securely and reliably to the Aurora Vision® Plant Management Platform for performance monitoring, condition monitoring and data reporting.

Highlights

- An expansion bus enables easy connection of options for battery backup pack or GSM/GPRS module for remote connectivity when a wired LAN Ethernet is missing
- Connects up to 128 ABB inverters using Aurora Protocol over RS485 for low frequency data sampling
- A quick review of the main key performance parameter of the plant locally provided by WUI
- Removable 2GB capacity SD Card flash memory for backup data storing
- Remote configuration and management capabilities, including firmware upgrades over the Internet using Aurora Vision® Plant Portfolio Manager

Additional highlights

- Light version available for cost effective residential / small commercial installation with all ABB string inverters (TRIO 20/27.6 kW excluded)
- Collects performance information such as energy harvest, power, voltage and inverter status
- Built-in display enables easy configuration of inputs, outputs, and communications
- Simple end-user UI using Aurora Vision® Plant Viewer



Technical data and types

Type code

PVI-AEC-EVO

Communication interfaces

Inverter communication (port 1)	RS485 - Aurora Protocol
Additional inverter communication (port 2)	RS485 configurable to Aurora Protocol
Maximum number of ABB devices	64 x string inverters or 32 x 55kW conversion module (central inverter) for each RS485 ⁽¹⁾
Ethernet connections	RJ-45 Ethernet 10/100 base-T (LAN/WAN)
Fieldbus cable	RS-485 Shielded twisted pair. Recommended Belden # 1120A cable or # 3106A for 3 conductors

Communication protocols

Plant fieldbus protocols	Aurora Protocol, Modbus RTU
LAN/WAN protocols	HTTP, XML

Data logging specifications

Data sampling rate	Continuous
Logging	15 min
Local storage	SD card (2GB)
Upgradeability	Field upgradable over the Internet or locally via SD card

Features

Configurable analog inputs	2 x configurable as 0 to 10 Vdc or 4 to 20 mA
Temperature analog input	1 x PT100 or PT1000 sensor with autotsetting
Configurable digital inputs	4 x opto isolated as status inputs (for alarms) or power management (PM) control signals ⁽²⁾ 2 x opto isolated as status inputs or pulse converter inputs (from energy meter)
Digital outputs	3 x relais power contacts 230 V / 3 A
Digital outputs configurable	2 x opto isolated (27 V, 50 mA) output status or power output

Power supply

AC power supply input	100...240 VAC
DC power supply output	24 VDC, 1 A
Maximum consumption	<7.5 W
Battery for integrated clock	Lithium type Li2032

Environmental parameters

Ambient temperature range	-20...+55 °C (-13... 131 °F)
Environmental protection	IP 20
Relative humidity	< 90% non condensing

Mechanical parameters (per unit)

Dimensions H x W x D	190 mm x 90 mm x 63 mm / 93,54" x 6,30" x 2,48" -9 modules
Weight	< 0.36 kg /0.80 lb
Mounting system	35 mm top hat din rail (EN50022)

Available products

Standard	PVI-AEC-EVO
Light	PVI-AEC-EVO-LIGHT ⁽³⁾

Compliance

Marking	CE
Safety and EMC standards	EN60950-1, EN 55022, EN 55024

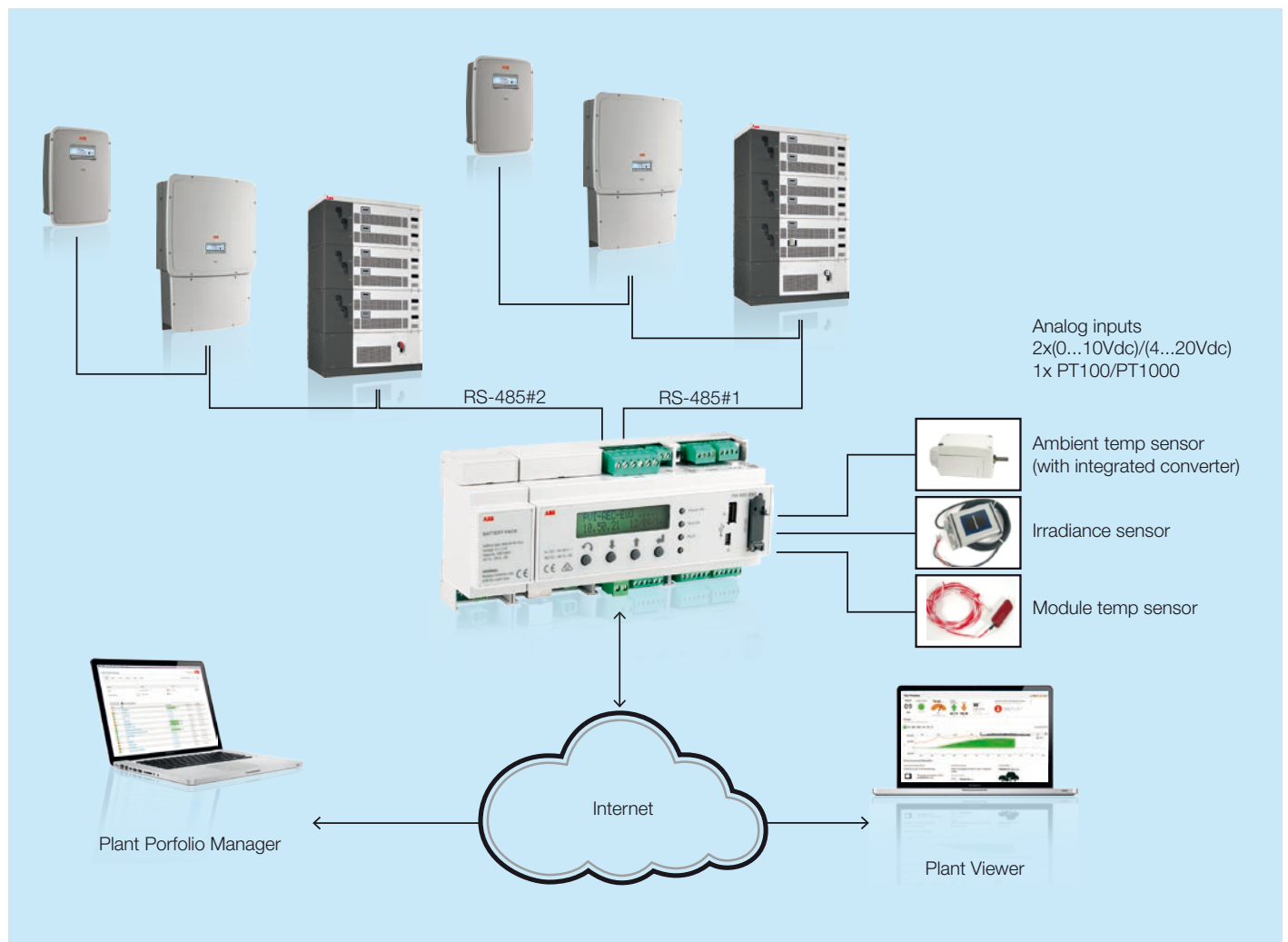
1. Limited to 5 String Inverters for PVI-AEC-EVO-LIGHT

2. Check for availability









3. Available only for string inverters, TRIO-20.0/27.6 models excluded

Remark. Features not specifically listed in the present data sheet are not included in the product

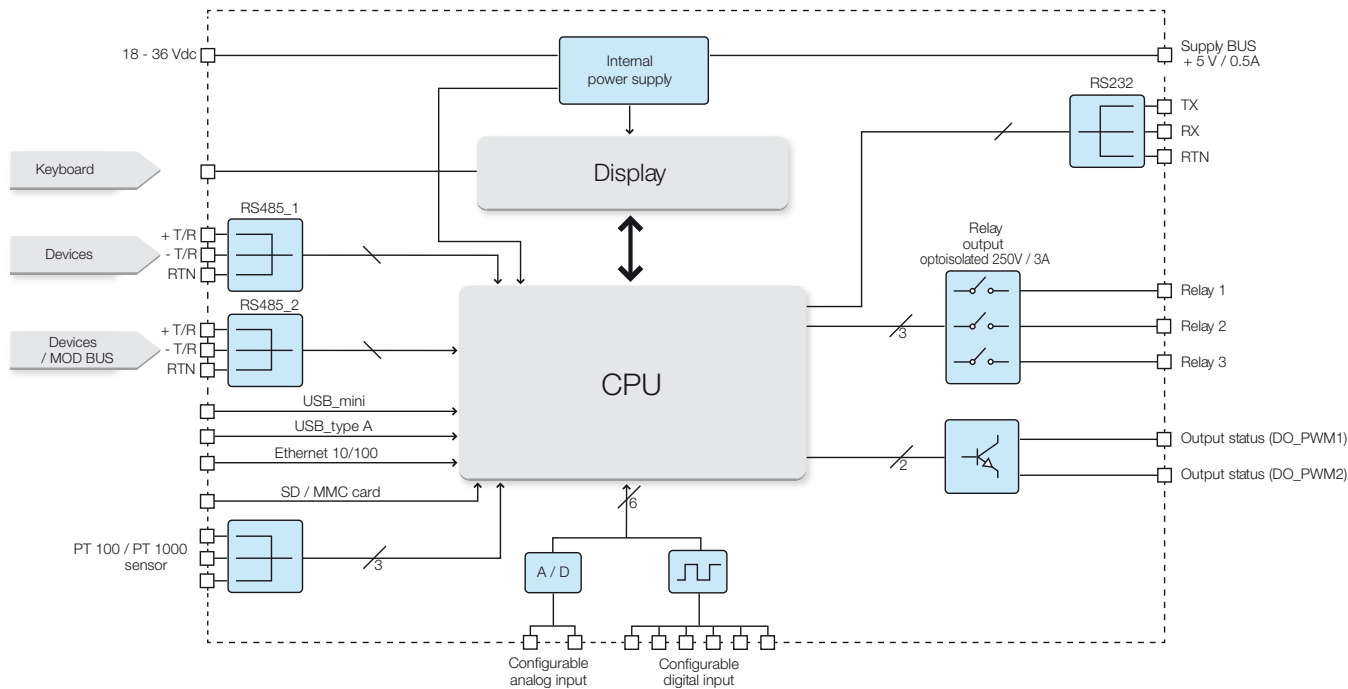
PVI-AEC-EVO application with weather sensors



PVI-AEC-EVO - Accessories

PVI-AEC-IRR	Irradiance reference cell 0 - 10 V				
PVI-AEC-IRR-T	Irradiance reference cell 0 - 10 V & back of reference cell temperature		PVI-AEC-T1000-integrated	PT-100 temperature Sensor with integrated converter 0 to 10 V	
PVI-AEC-IRR-T(30)	Irradiance reference cell 0 - 10 V & back of reference cell temperature with 30 m cable				
PVI-AEC-T100-ADH	PT-100 Self-Adhesive back of panel temperature sensor		PVI-AEC-WIND-COMPACT	Wind speed sensor	
PVI-AEC-T1000-BOX	Ambient temperature sensor with IP65 enclosure		PVI-GSM/GPRS	GPRS cellular module	
PVI-AEC-T100-24V	Convert PT-100 0 to 10 V (requires 24 V supply)		BATTERY PACK	Backup battery pack	

Block diagram of PVI-AEC-EVO



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Support and service

ABB supports its customers with dedicated, global service organization in more than 60 countries and strong regional and national technical partner networks providing complete range of life cycle services.

For more information please contact your local ABB representative or visit:

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