ABB monitoring and communications
VSN700 Data Logger
VSN700-01/ VSN700-03/VSN700-05

The high-performance VSN700 Data Logger provides simple and quick commissioning with device discovery and automatic IP addressing as well as remote management features.

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VSN700 Data Logger

This SunSpec compliant datalogger records data and events from inverters, energy meters, weather stations, and other photovoltaic plant devices, and acts as an Internet gateway to send the data securely and reliably to the Aurora Vision® Plant Management Platform for performance monitoring, condition monitoring and data reporting.

Three performance levels
The VSN700 Data Logger is available in three performance levels to fit anyone's budget and functionality:

VSN700-01 Data Logger is available to those residential customers who only need to monitor up to five (5) singlephase inverters.

VSN700-03 Data Logger is a cost-optimized logger for small commercial installations with up to ten (10) single and three-phase string inverters and one weather station (VSN800 Weather Station).

VSN700-05 Data Logger provides both customer data management and inverter command and control for commercial and utility PV system operation, as well as SCADA integration.

Highlights
All VSN700 Data Logger models include:
- Data management system with serial and Ethernet ports for data and event logging
- Quick installation and fast plug and play commissioning with device discovery mechanism
- Network Provisioning with dynamic IP addressing (DHCP client and server)
- Reliable and secure transmission of operational data to Aurora Vision® Plant Management Platform
- Remote configuration and management capabilities, including firmware upgrades over the Internet using Plant Portfolio Manager
- Simple end-user UI using Plant Viewer

VSN700-05 Data Logger (Max) includes the following additional functionalities:
- No software limitation on number of devices logged
- Modbus TCP server using SunSpec compliant Modbus maps for easy SCADA system integration, data collection, and inverter command execution
- Support for most ABB inverters, meters, smart combiners and weather stations (see VSN700 Data Logger model comparison table)
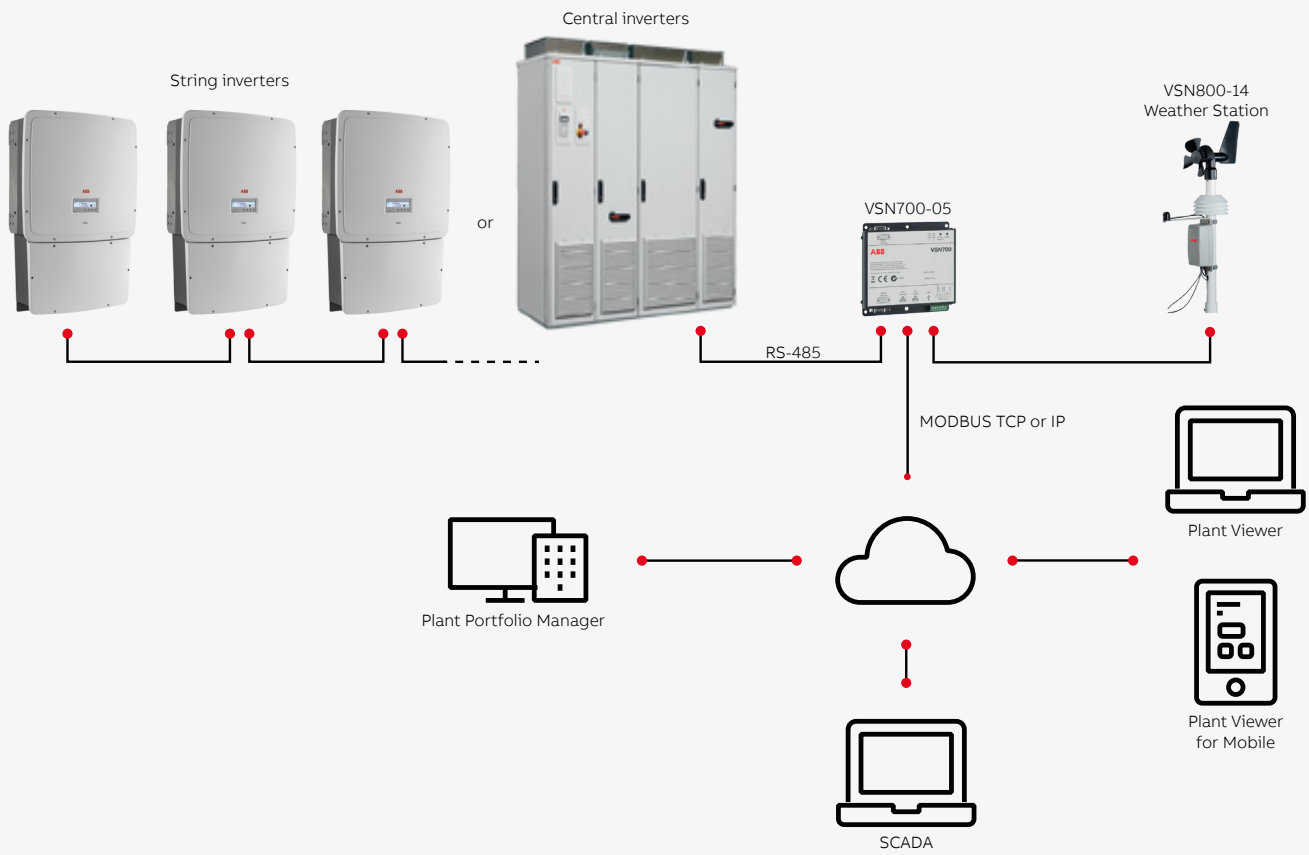
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Technical data and types

Type code	VSN700 Data Logger
Communication interfaces	
Serial port interface	(2) RS-485 + (2) RS-232
Maximum devices per serial port	Physical limitation of 32 (reduced by poll rate, inverter data set size and logger type)
Fieldbus cable	RS-485 Shielded Twisted Pair. Recommend Belden # 1120A cable or # 3106A for 3 conductors
Ethernet port 0	Firewall protected Ethernet WAN port for Internet connection
Ethernet port 1	Local LAN with static IP address
Ethernet connections	RJ-45 Ethernet 10/100 base-T (LAN/WAN)
Communication protocols	
Plant fieldbus protocols	Aurora Protocol, Modbus RTU (SunSpec)
LAN/WAN protocols	HTTP, DHCP, SSL, SSH, XML
Data logging specifications	
Data sampling rate	High frequency data sampling (less than 1 minute average)
Local storage	Log data for 30 days based on 15-minute intervals (Days logged may be reduced by intervals shorter than 7 minutes)
Upgradeability	Field upgradable over the Internet or locally via USB memory stick
Power supply	
AC power supply input	100 - 240 VAC
DC power supply output	12 VDC, 1 A
Environmental parameters	
Ambient temperature range	Logger only -40°F to 185°F (-40°C to 85°C); power supply 32°F -104°F (0°C-40°C)
Environmental protection	IP20
Relative humidity	< 85% Non-condensing
Mechanical parameters (per unit)	
Dimensions (H x W x D)	.03 m x .14 m x .13 m (1" x 5.5" x 5.25")
Weight	0.91 kg (2 lbs)
Mounting system	Screws through flanges
Warranty	
Standard warranty	Two years
Accessories	
VSN-MGR-DIN	Din rail mount kit to mount logger on a din rail
VSN800-12	Weather Station with sensors: ambient temperature, panel temperature, global irradiance
VSN800-14	Weather Station with sensors: ambient temperature, panel temperature, global irradiance, plane of array irradiance, wind speed and direction
Compliance	
Emissions	FCC Part 15 Class B, CISPR 22, EN 55022 conducted and radiated emission, EN55024

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

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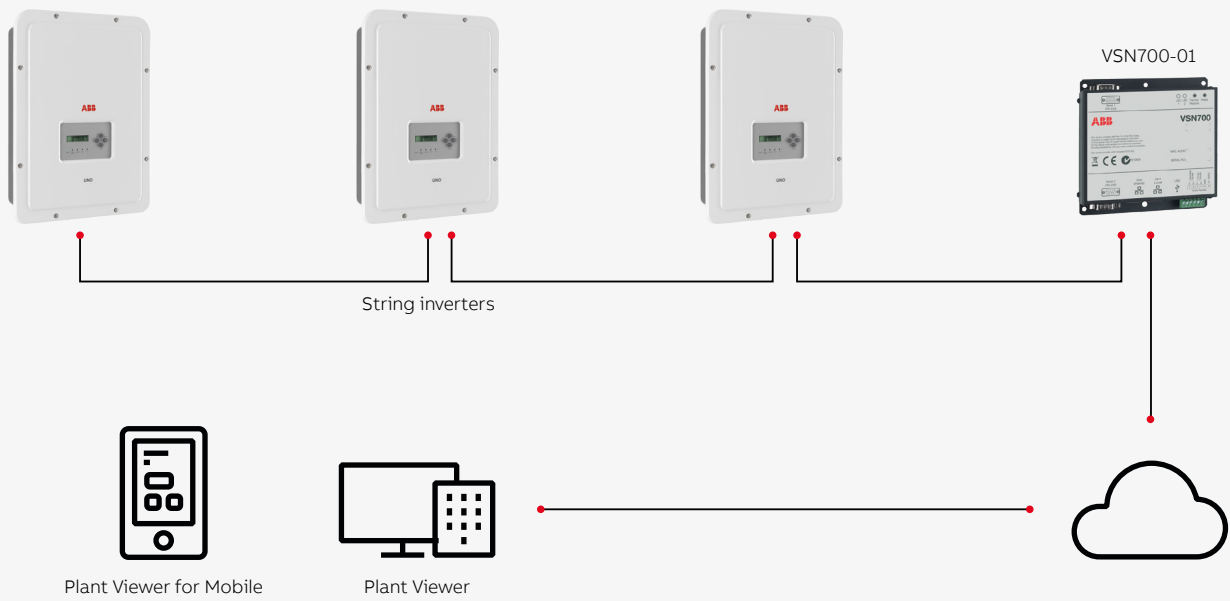**Commercial and utility application with VSN700-05**

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VSN700 Data Logger model comparison

Type code	VSN700-01	VSN700-03	VSN700-05
Logging real-time power values	15-minute intervals only	1, 3, 5, 15 minute configurable intervals	1, 3, 5, 15 minute configurable intervals
Modbus/TCP server	No	No	Yes
Inverter control commands	No	No	Yes
Devices supported	5 x ABB single-phase inverters*	10 x all ABB string inverters	All ABB inverters
		1 x VSN800-XX Weather Station	Other ABB devices and third-party devices (Consult latest supported list)

* Supports also TRIO-5.8/7.5/8.5-TL-OUTD

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VSN700 Data Logger Accessories

VSN-MGR-DIN	Din rail kit to mount logger on a din rail	
VSN800-12	Weather station with sensors: ambient, panel, global irradiance	
VSN800-14	Weather station with sensors: ambient, panel, global irradiance, plane of array irradiance, wind speed and direction	

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Residential application with VSN700-01

VSN700-01

String inverters

Plant Viewer for Mobile

Plant Viewer

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

www.abb.com/solarinverters
www.abb.com

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