

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.

This SunSpec compliant data logger 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.

The VSN700 Data Logger is also available integrated in turnkey solutions, such as VSN730 System Monitor or VSN750 Plant Manager.

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) single-phase inverters.

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

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-n-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

Additional highlights

VSN700-05 Data Logger (Max) includes the following additional functionality:

- No software limitation on number of devices logged
- Limitation is set by memory and bandwidth usage
- 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



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) ¹⁾
Local storage	Log data for 30 days based on 15-minute intervals (Days logged may be reduced by intervals shorter than 7 minute)
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	0 °C - 40°C
Environmental protection	IP 20
Relative humidity	<85% Non-condensing
Mechanical parameters (per unit)	
Dimensions (H x W x D)	1" x 5.5" x 5.25" (.03 m x .14 m x .13 m)
Weight	2 lbs (0.91 kg)
Mounting system	Screws through flanges
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
Immunity	EN55024

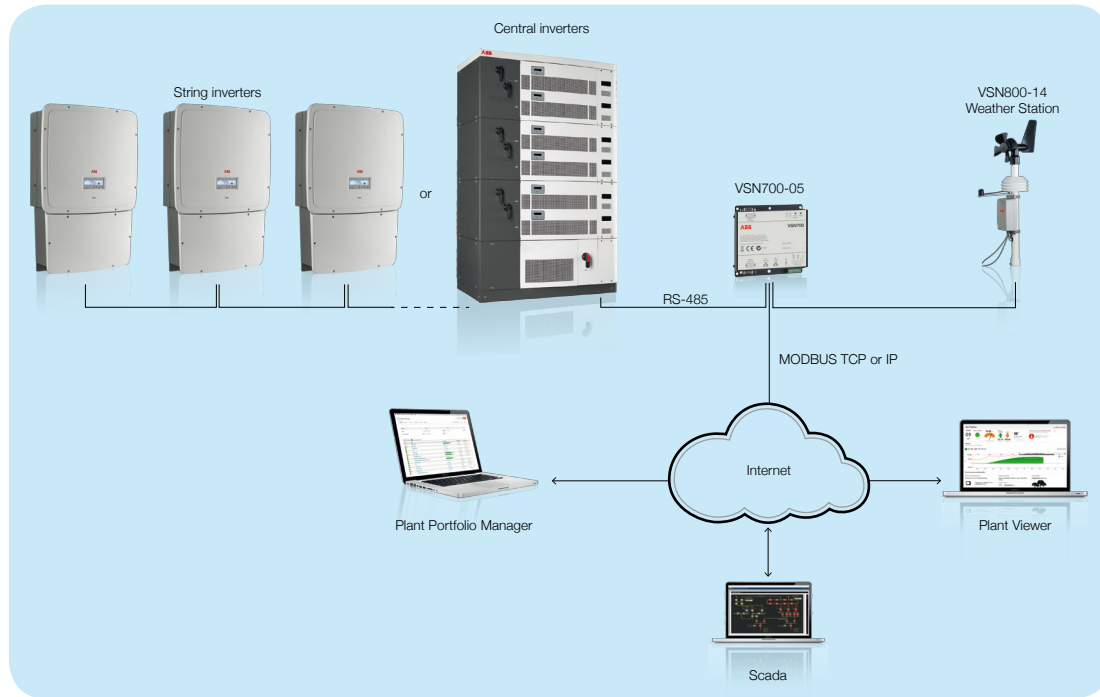
¹⁾ Depending on the number of monitored devices

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

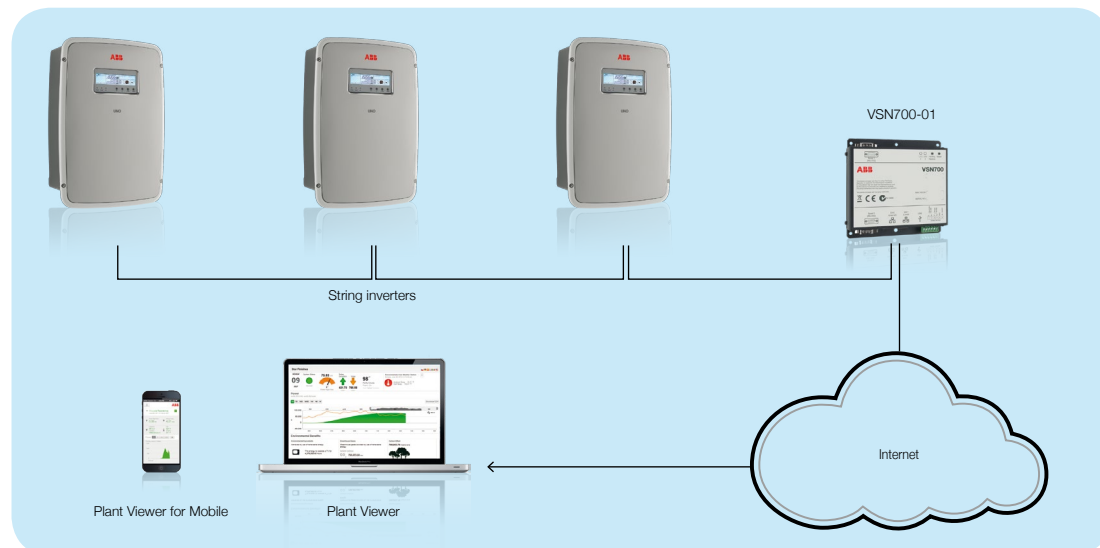
VSN700 Data Logger model comparison

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 inverters	10 x ABB inverters	All ABB inverters
	Single-phase (only) string inverters	Three and single-phase string inverters	Other ABB devices and third-party devices (Consult latest supported list)
		1 x VSN800-XX Weather Station	




Commercial and utility application with VSN700-05



Residential application with VSN700-01



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	

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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