ABB monitoring and communications
VSN700 Data Logger

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. It 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.

Three performance levels offer maximum flexibility.
The VSN700 Data Logger is available in three performance levels to fit virtually any budget and functionality requirements:
VSN700-01 Data Logger is available to residential customers who only need to monitor five (5) single-phase inverters.
VSN700-03 Data Logger is a cost-optimized logger for small commercial installations up to ten (10) single or 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 Aurora Vision® Plant Portfolio Manager
– Simple end-user UI using Aurora Vision® Plant Viewer

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Additional highlights:

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

– No software limitation on number of devices logged
– Modbus TCP server using SunSpec Alliance 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)

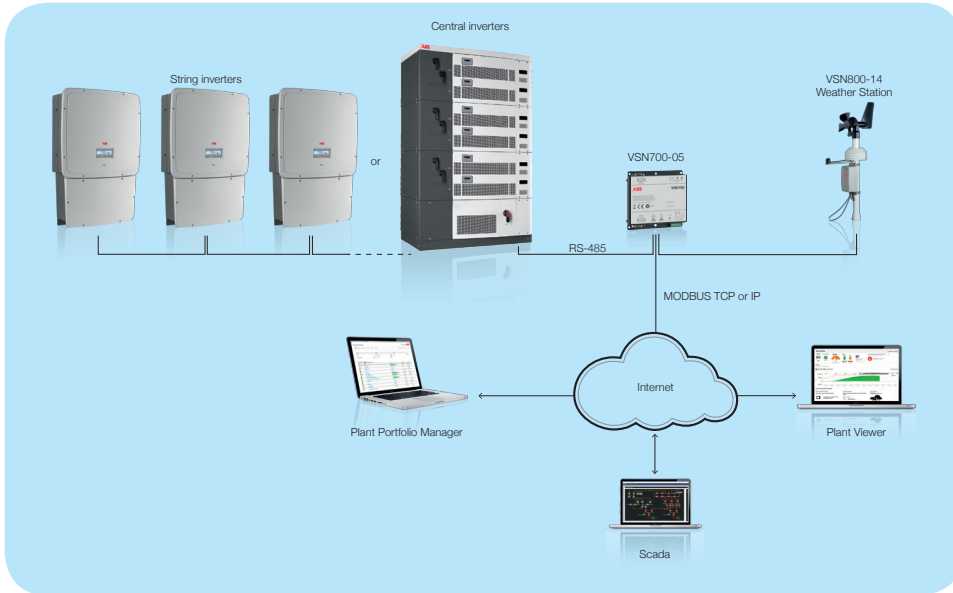## Technical data and types

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	Logs 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	12VDC, 1A
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	IP 20
Relative humidity	<85% Non-condensing
Mechanical parameters (per unit)	
Dimensions (H x W x D)	1" x 5.5" x 5.25" (.03m x .14m x .13m)
Weight	2lb (0.91kg)
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	
EMC	FCC Part 15 Class B, CISPR 22, EN 55022 conducted and radiated emission, EN55024

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	5x ABB inverters	10x 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

Central inverters

String inverters

VSN800-14
Weather Station

VSN700-05

RS-485

MODBUS TCP or IP

Internet

Plant Portfolio Manager

Plant Viewer

Scada

Residential application with VSN700-01

VSN700-01

String inverters

Internet

Plant Viewer

VSN700 Data Logger accessories

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

Support and service

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