



READER: Technical Specifications

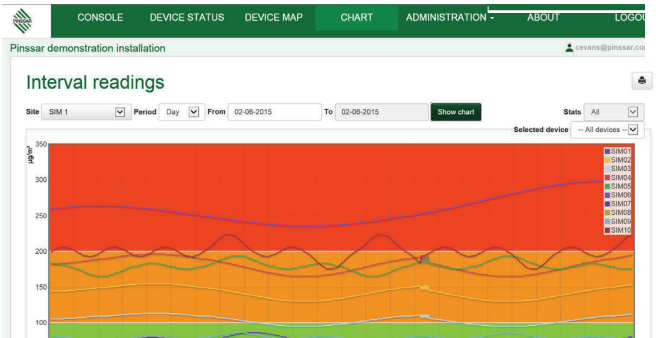
Pinssar's READER is a ruggedised real-time smart monitoring device to sample diesel particulates.

Air Monitoring Technology

DPM Reader



Dashboard



Pinssar's Dashboard is included with each Reader. It is an easy to use and configurable user interface. It records and displays samples from the Reader in terms of values as well as internal diagnostics. Functions include:

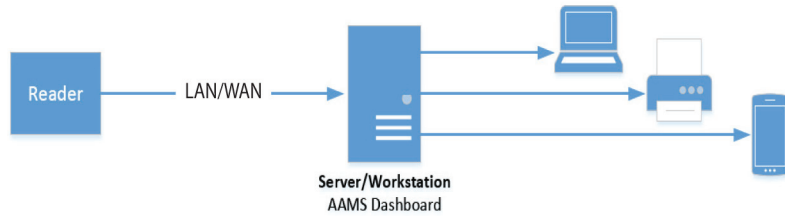
- CONSOLE : Tabulates samples for the current shift and previous shifts.
- READER STATUS : Indicates if power is on and or the communications are not active, or operating as intended as well as the status of the internal components.
- READER MAP : Records the location of each Reader.
- CHART : A real time visual display of samples.
- ADMINISTRATION : Provides installation and site configuration details

PATENT INFORMATION - AU Pat App No. 2016902308

Technical Specification for DPM READER	
Measurement Technique	Laser-light scattering photometry
Concentration Range	0 to 2,500µg/m3
Self-Cleaning	The optical cell is flushed with filtered air after each sample is taken.
Measurement Frequency	Pre-set at every 4 minutes with an interval between samples taken.
Zero Drift	Negligible; uses an internally designed auto-zero system
Remote Management	Managing of Reader device can be done remotely via AAMS Server software
Size Fraction	≤ 0.8 µm
Particulate Type	Particulate Mass is calibrated to the response of a reference photometer gravimetrically calibrated to diesel particulate matter (<800nm).
Dimensions	With external filter 660mm(H) x 250 mm(D) x740mm (W)
Mass	30.2kg
Flow Rate	2.2 litres per minute
Operating Humidity Range	0 to 90% relative humidity (non-condensing)
Operating Temperature Range	-10°C to 45°C, 14°F to 113°F
Enclosure Material	Stainless Steel (316 grade)
IP Rating	IP64
Internal Clock	Sync to UTC (requires internet access)
Sample Data Characteristics	Timestamp: Year, Month, Day, Hour, Minutes and Seconds Supporting Data Includes physical location, unique identifier, IP address, serial number and sample value through the Dashboard Application.
Internal Data Storage	2GB CF Card (Min)
Diagnostics	Reader device status reported via the AAMS Server Software
Power Option	Universal power supply 110-240VAC Battery: 6.4Ah-12.8V LiFePO4 (internally mounted)
Surge protect	110VAC to 240VAC Variant: 3kV isolation in accordance with EN60950
Identification Labelling	Serial number plate on right hand side panel
Data Communication scenarios	See scenario list on following page
Data Communication Interface Options	USB Ethernet: 10/100Base TX (Cat5 RJ45) Wireless: LTE/UMTS (HSPDA/HSPDA+), WiFi (IEEE 802.11b,g,n) Modbus: Modbus TCP Protocol
Compliances	EMC AS/NZ CISPR 32 Safety AS/NZ 60950 EMC FCC part 15B EN 301489-1 V2.1.1

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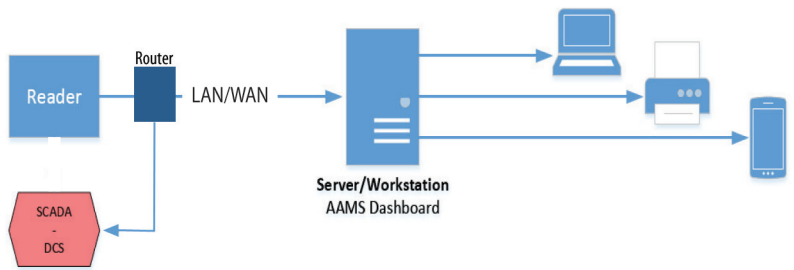
Installation Example A: AAMS Server



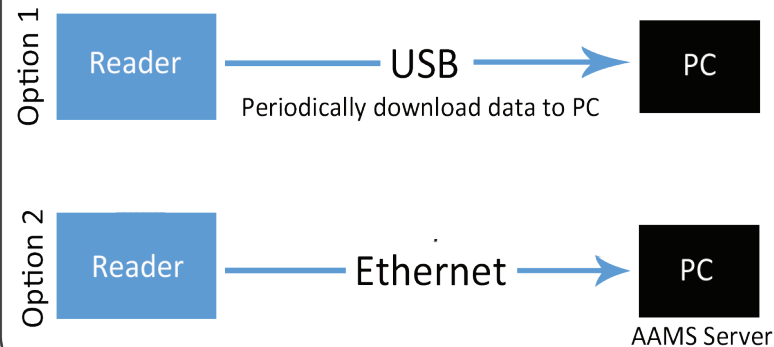
Installation Example B: Modbus



Installation Example C: Modbus & AAMS Server



Installation Example D: Direct Connection



Reader - Collects samples and pushes data to the AAMS Dashboard repository on the server.

LAN/WAN - The Reader then communicates with the AAMS Dashboard on the server direct connect. (LAN/Wireless) via the web from any remote location. Many protocols are supported including ethernet - TCP/IP and MODBUS.

AAMS Dashboard - SERVER - The dashboard has both server and end-user client applications. the server has a light footprint embedded - relational data base repository (SQLite).

Other commercially available RDBMS are also supported on application.

Client - Users access the system via web browser. A range of user interfaces are supported on computers/laptops (PC and Mac) tablets (Android and Apple) and all printer types.

MODBUS/TCP - This is the primary protocol supported when the Reader is directly connected to a SCADA/DCS system or PLC.

SCADA/DCS- The Reader by default uses Modbus but it can be configured for different protocols if required.

Ordering Information

Each Pinssar Reader contains

Monitoring device
Choice of communication interface
Pinssar "Dashboard" Software for Windows® 7/10
Modbus mapping document available
Customer Support and Maintenance Program including:

- Technical support: telephone & email
- 12 month warranty
- Annual calibration
- Break fix
- Upgrade program

For a detailed quotation:

Call +61 7 3118 1733

Email sales@pinssar.com.au

Time Zone: Brisbane, Australia (UTC+10:00)



Air Monitoring Technology

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