

AIR QUALITY AND DUST MONITORING



APPLICATION BACKGROUND

Environmental compliance obligations to limit dust and monitor air quality are becoming more stringent.

Weather Stations which monitor temperature, rainfall, humidity etc are common. Weather authorities provide public information on these parameters. A local Tier 2 weather stations can be set up to specifically monitor specific industrial areas.

There is also a need to monitor air quality and dust levels as well as weather parameters in industrial areas.

Factories and industrial plants need to monitor dust levels on an immediate needs basis, to close down operations when levels exceed the regulatory limits. Local authorities themselves may also need to monitor air quality generally to alert local residents of any immediate unsafe conditions.

These organizations also need to complete weekly / monthly / quarterly reports on environmental compliance generally, and to determine longer term trends.

APPLICATION DETAIL

There are several brands of dust / particulate monitoring instruments and systems. One such brand is the Dust Track monitor, which provides an automated, regular dust measurement.

Typical systems would be set up on the site, perhaps at central and perimeter locations within the industrial area with a solar panel and battery to make the installation easier and to ensure there is a battery backed up power supply, so measurements are maintained in the event of a primary power failure.

Combining a Dust Monitor Instrument and a Neon Remote Logger allows factories and industrial plants to maintain dust compliance and to alert operators of any out of limit dust condition.

There may also be a requirement to monitor the weather in the area using Tier 2 weather station equipment to record the ambient conditions, especially wind speed and direction, so there is good knowledge of the general wind conditions to make sure dust and other emissions from the plant are not being carried by the wind to areas of population, such as a local town or city.

There may be the need for one Tier 2 to be installed at the plant and at each perimeter fence of the facility to get a good reading for the local area.

These systems are usually enclosed in a rugged housing, and mounted on a pole with a solar / battery power source and a Neon



Remote Logger to obtain readings from the Dust Track and routinely (5, 10, 15 minutes) send that data to a central Neon Server.

Alarms can be set up to immediately notify authority by email or text of any out of limit condition.

Long term routine data can also be examined to determine any long term trends with dust conditions at the site, and to also provide for a long term store of the routine data, to assist with environmental compliance requirements.





TYPICAL CONFIGURATION

APPLICATION SPECIFIC INSTRUMENTS/INPUTS

Options	Unidata Part Number	Description
WXT536 measures barometric pressure, humidity, precipitation, temperature, wind speed & direction	6501V-H	Vaisala Weather Transmitter RS232/422/485 SDI-12
Dusttrack II Aerosol Monitor 8530	-	Dusttrack™ II Aerosol Monitor 8530

NEON TELEMETRY - NRL / RTU / FIELD UNITS

Options	Unidata Part Number	Description
Ethernet	3016A-000 / 3008A-000	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Ethernet & 3G/4G	3016A-C00 / 3008A-C00	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Ethernet & 3G/4G and LoRa	3016A-CL0 / 3008A-CL0	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Equatorial Orbit Satellite-Inmarsat	3016A-00I / 3008A-00I	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Equatorial Orbit Satellite-Inmarsat & 3G/4G	3016A-C0I / 3008A-C0I	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Low Earth Orbit Satellite - Globalstar	3016A-00G / 3008A-00G	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Satellite - Iridium Short Burst Data	3016A-00R / 3008A-00R	Neon Remote Logger-16 or 8 Analog Ch / Touch Screen Display
Standalone RTU/NRL - Industrial	3004A-00 / 3004A-0L	Neon Remote Logger-4 Analog Ch with or without Touch Screen Display
Cellular RTU/NRL 3G/4G - Industrial	3004A-C0 / 3004A-CL	Neon Remote Logger-4 Analog Ch with or without Touch Screen Display
M – Series Standalone RTU/NRL	3004A-M000 / 3004A-M0B0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series Cellular RTU/NRL 3G/4G	3004A-MC00 / 3004A-MCB0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series LoRa RTU/NRL	3004A-ML00 / 3004A-MLB0	Neon Remote Logger-4 Analog Ch with or without Li Battery
M – Series Ethernet RTU/NRL	3004A-MEBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional
M – Series Microsatellite RTU/NRL	3004A-MHBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional
M – Series Iridium Short Burst Data RTU/NRL	3004A-MIBL	Neon Remote Logger-4 Analog Ch, Li Battery & LCD are optional

NEON APPLICATION SOFTWARE - CUSTOMER SERVER

Options	Unidata Part Number	Description
Neon Applications Software	2302A	Neon Server Software Licence Incl 5 NAL
Neon Applications Software	2302A-10	Additional 10 NRT Access Licence
Neon Applications Software	2302A-20	Additional 20 NRT Access Licence
Neon Applications Software	2302A-50	Additional 50 NRT Access Licence

NEON HOSTING SERVICE - UNIDATA SERVER

Options	Unidata Part Number	Description
Neon Hosting Service	2301A	Neon Data Initial Subscription Setup Fee
Neon Hosting Service	2301A-01	Neon Data Service Fee for 1-50 NRT
Neon Hosting Service	2301A-02	Neon Data Service Fee for 51-100 NRT
Neon Hosting Service	2301A-10	Neon Data Service Fee Metering

DATALOGGER MANAGEMENT SOFTWARE

Options	Unidata Part Number	Description
Starlog V4 Management Software	6308A-AUE	STARLOG V4 Full Licence Key