Technical Bulletin

Bulletin Number: TB-2018116-BW01 **Date Published: 04/26/2018**

Summary: Connecting the RM Young Wind Monitor to the Smart Scan NG or Smart Scan NG²

☐ **Critical (Affects safe operation of the system)** ☒ **Informational**
Distribution List:

2300-220 WIND MONITOR INTERFACE

The **Model 2300-220 Wind Monitor Interface** offers a convenient means to connect the RM Young Wind Monitor to the Smart Scan NG or Smart Scan NG² Defect Detector System. The unit provides the following.

- Multi-stage surge protection for power supply and RS-485 with 3KV power supply isolation.
- 9VDC to 30VDC input voltage expands the operating range of the Wind Monitor.
- Surplus 12-Volt power can supply applications such as a High/Wide detector.
- Rugged compact design for easy installation and maintenance.
- A Dsub-9 female connector that connects with a straight-through cable to the defect detector's RS-485 port and the wiring terminals are labeled to match the terminals of the RM Young Wind Monitor for ease of installation.
- A grounding strap provides a path to ground for surge currents and to bleed off static electricity from the wind monitor.
- A green status LED indicates the +12V power supply output is present.

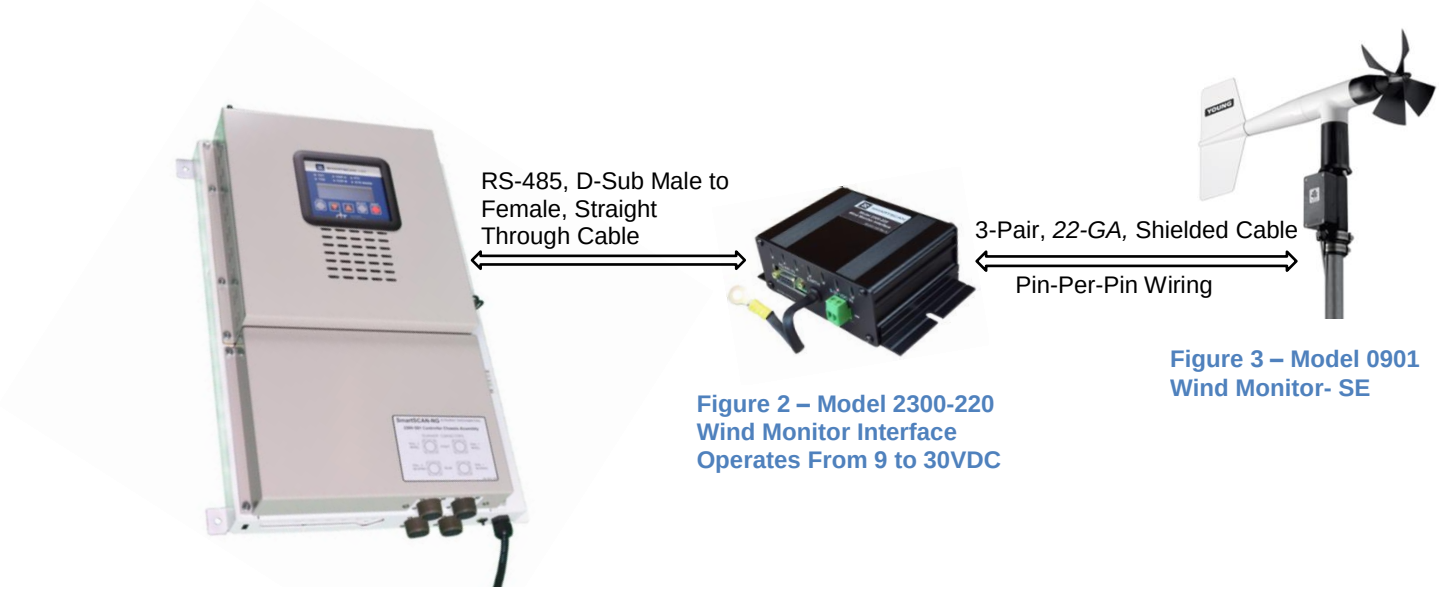


Figure 1 - Model 2300 Smart Scan NG² Defect Detector

Figure 2 – Model 2300-220 Wind Monitor Interface Operates From 9 to 30VDC

Figure 3 – Model 0901 Wind Monitor- SE

Wiring Connections From Wind Monitor Interface to RM Young Wind Monitor

Wind Monitor Interface	RM Young Wind Monitor
+PWR	+PWR
REF	REF
A	A
B	B
EARTH	EARTH

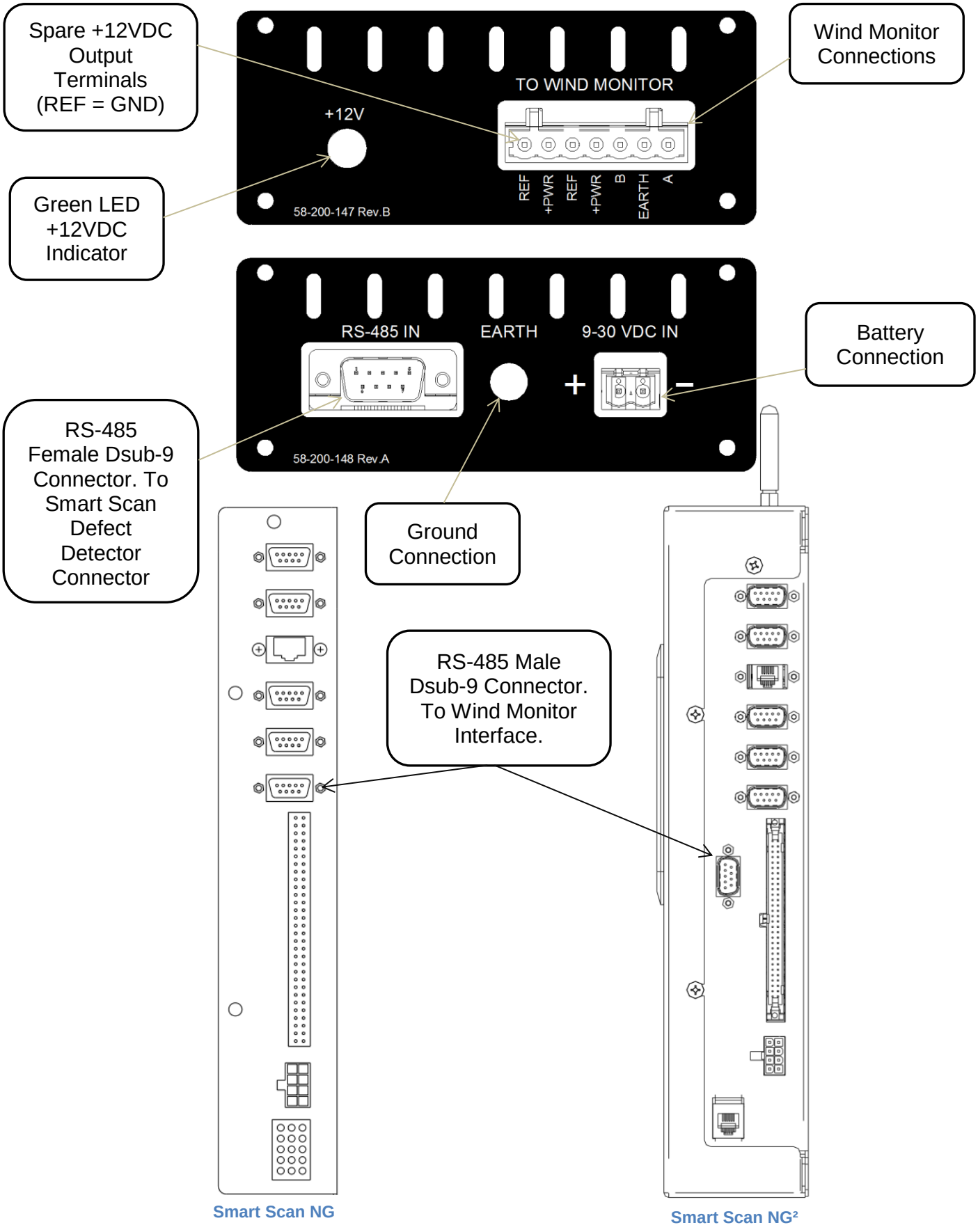
- Assign connections +PWR and REF to a Twisted Pair
- Assign connections A and B to a Twisted Pair
- Connect the shield from the cable to the EARTH terminal on the Wind Monitor Interface only.

Wiring Connections From Wind Monitor Interface to Battery (Use 18AWG or 20AWG)

Wind Monitor Interface	Battery (12V or 24V)
+	+
-	-

EARTH - Connect the grounding strap to an earth ground. Use as short of a grounding wire as practicable for your installation.

RS-485 – Use the supplied cable to connect from the Smart Scan defect detector to the Wind Monitor Interface. See next page for port locations.


Spare +12VDC Output Terminals (REF = GND)
Wind Monitor Connections
Green LED +12VDC Indicator
Battery Connection
RS-485 Female Dsub-9 Connector. To Smart Scan Defect Detector Connector
Ground Connection
RS-485 Male Dsub-9 Connector. To Wind Monitor Interface.
TO WIND MONITOR
+12V
REF
+PWR
REF
+PWR
B
EARTH
A
58-200-147 Rev.B
RS-485 IN
EARTH
9-30 VDC IN
+
–
58-200-148 Rev.A
Smart Scan NG
Smart Scan NG²

RM Young Wind Monitor Power Requirement:	11-24VDC, 20 mA

Wind Monitor Interface Specifications

Internal Power Supply

Internal Power Supply Type:	DC-DC Converter, 3KV Isolation
Input Voltage Range :	9 - 30VDC
Regulated Output Voltage/Amps:	+12VDC, 1 Amp Max.
Output Regulation (0-100% Load Variation):	+/- 1.2%
Minimum Load:	Not Required
Maximum Input Current at Full Output Load[1]:	1.6 Amps
Nominal Input Current at Full Output Load[2]:	480mA
Input Current when Powering Only the Wind Monitor [1]:	60mA
Output Ripple and Noise:	75mVp-p typ., 115mVp-p full load
Minimum Operating Temperature:	40°C
Maximum Operating Temperature:	65°C
DC Surge Arrestor:	Output – Three Stage Design: Differential Gas Discharge Tube, Common Mode Choke, 13-Joule MOV Input – Two Stage Design: Self-Restoring PTC, 30V/5KW TVS
RS-485 Surge Arrestor:	Four Stage Design: Differential Gas Discharge Tube, Self-restoring PTCs, Current Limiting Resistors, Low Capacitance Diodes with 7V and 12V 1.5KW TVS to pass asymmetrical voltage levels per TIA/EIA-422A standards.

General

Dimensions (Inches):	Overall 3.80L X 5.525W X 1.80H
Weight:	12.2 oz.
Grounding Braid Cable:	3.5”

Note: 1 Measurement taken representing worst-case power supply input voltage of 9VDC for this specification.

Note: 2 Measurement taken with power supply input voltage of 28VDC for this specification, which represents the average battery voltage of a 28 volt wayside reporting system.