

MODEL 5470

NTCIP Mini-RWIS Remote Processing Unit

- NTCIP Compliant ESS
- Surge Protected
- Isolated Weather Status Outputs
- 1 Rack Unit Package for Advance Traffic Controller Applications



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DESCRIPTION:

Road Weather Information Systems (RWIS) provide important information about weather and roadway conditions, helping operations and maintenance personnel stay informed so that they can make timely decisions and improve traffic safety. Full RWIS stations typically require new right-of-way space with a dedicated pad, tower, cabinet, fence and utilities work which all contribute to the high price and complex installation for these stations. Many road weather related decisions need to be made in locations where Advance Traffic Controller (ATC) cabinets (with power and communications) are already in place.

The Model 5470 Road Weather Station Remote Processing Unit (RPU) is the heart of a non-proprietary, open architecture NTCIP-compliant Environmental Sensor Station (ESS), designed for primary deployment within existing or new Advanced Traffic Controller cabinets (i.e., ATC 2070) and Dynamic Message Sign cabinets. This unique approach to NTCIP-compliant RWIS allows simpler implementation at a lower cost than traditional installations.

The MiniRWIS supports several “actionable” weather sensors. The unit activates and deactivates isolated outputs based on user settable high and low thresholds, enabling use of locally resolved weather status information to activate local public warning devices such as flashing beacon signs or changeable messages signs. Further, these outputs may be used to activate preemptions within the ATC2070, enabling new and innovative approaches to improving traffic safety.

In order to easily fit in the tight quarters of a traffic cabinet, the entire MiniRWIS, including NTCIP controller, sensor surge protection, power converter and weather status outputs is packaged to fit in 1U rack mount enclosure. Sensors are deployed on existing nearby traffic poles using standard Astro-Brac or similar hardware.

Communications with the MiniRWIS is NTCIP 1204 ESS via Ethernet or EIA-232/485 connection, providing the flexibility needed to poll and collect data over a variety of communications means. As a fully NTCIP compliant system, central polling and monitoring can be provided by any number of software solutions. For customer-owned data with the ability to modify and redistribute data without additional costs, the Model 5470 is optionally packaged with DEC Data Systems DataWise NTCIP Central Software for Environmental Data Acquisition Database Management and Control. This comprehensive and flexible software supports the full complement of NTCIP 1204 ESS Object Identifiers and provides a flexible platform for site polling, data collection and analysis, data distribution and personnel notifications. DataWise NTCIP Central Software simultaneously supports many other sensor types, exports to multiple relational databases and allows for real-time or historical population of relational databases.

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Environmental Monitoring Solutions

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SENSORS and FUNCTIONALITY:

Up to two analog water depth sensors for flood warning. Typical sensor used is a Pressure Transducer, Bubbler Sensor or Ultrasonic Level Sensor. Two high and low level thresholds are provided for each of the 2 sensors, activating a total of four outputs based on flood conditions.

Optical road surface status detector. The IceSight-LT or IceSight 2020 non-intrusive road sensor detects surface status and provides a derived friction coefficient. The unit also provides surface temperature and optionally provides air temperature readings. Separate outputs are activated for wet road and for icy road conditions.

Visibility Sensor. The analog version of the EnviroTech Sentry Visibility sensor provides a visibility reading, which activates and deactivates a low visibility output based on user settable thresholds.

Wind Sensor. The RM Young 5103 wind sensor provides wind speed and direction readings, which activates and deactivates an output based on user settable wind speed thresholds. The high wind output is activated when the spot wind speed threshold is exceeded, and is deactivated when the 10 minute wind gust speed is below the threshold value.

Rain Gauge. The HSE Model 2408 8-inch Tipping Bucket Rain Gauge provides precipitation rate and totals. A settable tip count accumulator facilitates Central Software forwarding raw data to other weather databases.

SPECIFICATIONS:

Power Source	24 VDC from ATC 2070 Cabinet Auxiliary Power Supply Optional 12 VDC Optional 115 VAC via External Power Supply
Power Consumption	<8 Watts
Dimensions	1U 19" Rack Mount Unit 1.75"Hx19"Wx8"D
Weight	8 Pounds
Data Connection:	
Ethernet	RJ45
RS-232 -RS-485	Db9
Sensor Surge Protection ...	Internal M Block Plug-in Suppressors
Operating Temp	-40° C. to +74° C.
Humidity	5-95% Non-Condensing
Protocol Supported:	
Direct	Data Objects-SNMP-Null-PMPP-Twisted Pair
Dial Up	Data Objects-SNMP-Null-PMPP-V Series Modem Telco Data Object-SNMP-UDP/IP-PPP-V Series Model-Telco
Ethernet	Data Objects-SNMP-TCP/IP-Ethernet Data Objects-SNMP-UDP/IP-Ethernet

ORDERING GUIDE:

Model 5470-01.	NTCIP MiniRWIS RPU 24VDC
Model 5470-02.	NTCIP MiniRWIS RPU 12VDC
Model 5470-03.	NTCIP MiniRWIS RPU 24VDC w/DEC DataWise Software & Set-up
Model 5470-04.	NTCIP MiniRWIS RPU 12 VDC w/DEC DataWise Software & Set-up
<u>Sensors:</u>	
Model 6600-10.	Water Level Sensor w/ 35Ft. Submersible Cable
Model 5433-00.	IceSight 2020 Remote Surface Condition Sensor
Model 5433-01.	IceSight LT Remote Surface Condition Sensor
Model 5433-02.	IceSight LT Remote Surface Condition Sensor w/Mast Mount Sensor Electronics Unit
Model 5434-00.	Sentry Visibility Sensor
Model 5712-00.	Wind Monitor
Model 2408-00.	Tipping Bucket Rain Gauge, 8"

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