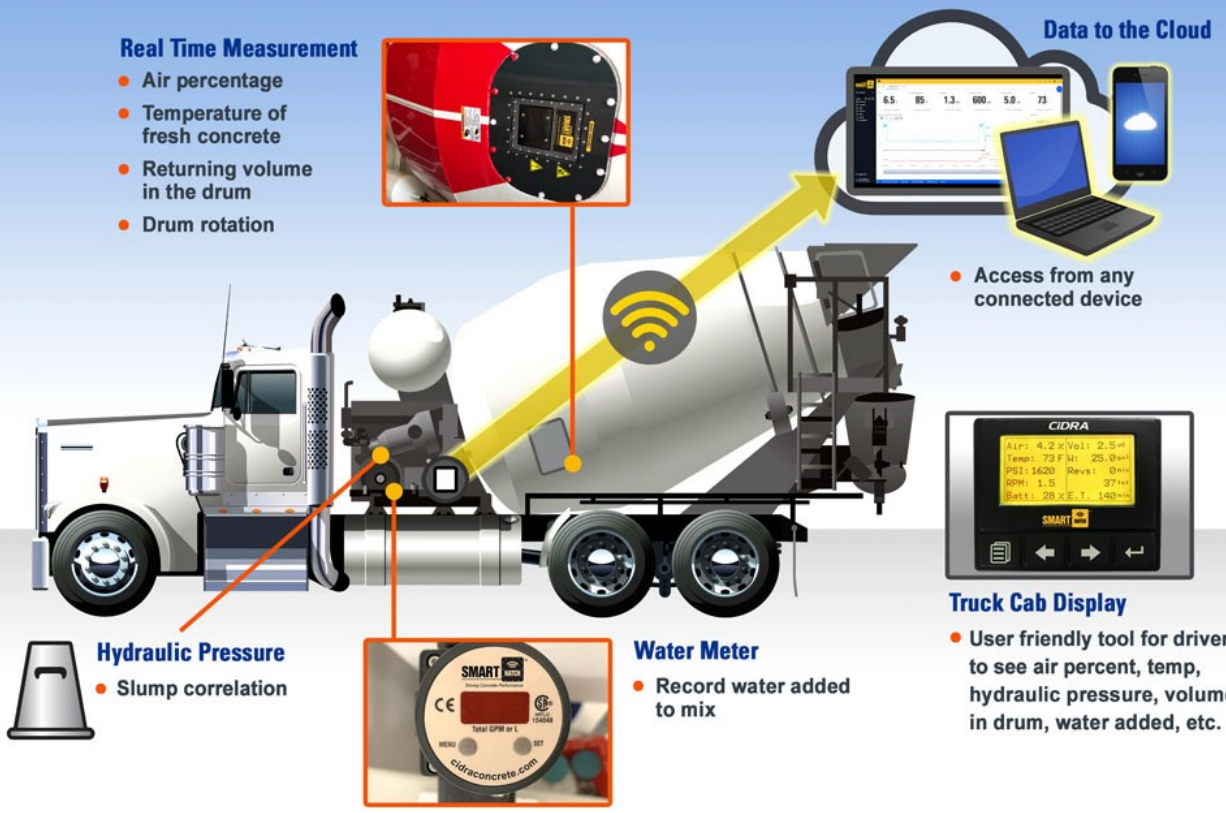
SMART*hatch*® *featuring AIRtrac*™ *Technology*

CiDRA® Concrete Systems

Data Sheet

Real-Time Concrete Quality Measurement from Batch Plant to Job Site



Financial and Operational Benefits

- Reduce rejected loads
- Reduce remediation expense
- Reduce time, labor and variability related to manual testing
- Knowing actual volume, time and temperature enables optimal repurposing of concrete
- Provide continuous measurement of entire load vs. small sample size of traditional manual test
- Deliver real-time concrete air and temperature measurement from batch plant to job site
- Expand quality control coverage, reduce time, labor and variability related to manual testing
- Provide visibility of adherence to standard operating procedures (e.g. mixing time and drum speed)
- Water Meter Tracks Water Added Plant to Pour

System Features

- Air % by volume
- Volume-in-the-drum
- Temperature
- Revolution counter
- Hydraulic pressure for slump correlation
- Digital water meter - records water added
- Truck cab display
- Cellular telematics module
- Web-based dashboard
- Historical data

SMART HATCH®

Driving Concrete Performance

Parameter	Specification	Comments
Concrete Air Content	0 to 15% by volume	Total air content
Concrete Temperature	32°F to 122°F (0°C to 50°C)	
Mixer Drum Speed	+0.5 rpm to +6 rpm required for valid air content measurement	Positive (+) is charge direction, negative (-) is discharge direction
Concrete Mix Design	Typically 2 in (50 mm) slump and greater, including SCC mixes	Both “air-entrained” and “no-air” concrete
Sensor Update Rate	Output updated maximum once per drum revolution	Air content measured continuously as sensor rotates with drum through the concrete
Sensor	Mounted on truck mixer drum using existing access hatch mounting frame Wireless communication with Receiver Module Weight: 56 lbs (25 kg)	Hatch Adapter Plates available for all popular drum styles, including Beck, Con-Tech, London, McNeilus, Oshkosh, Terex, plus others. Sensor weight includes adapter plate
Receiver Module	Mounted on back of truck cab or to truck frame Wireless communication with Sensor	
Truck Cab Display	Displays Concrete Air Content (%), Drum Speed (rpm), Concrete Temperature (°F or °C) and Sensor battery life (% remaining)	Provides feedback to driver on when air measurement is available
Telematics	Cellular-based data transmission to cloud server storage Secure, customer-specific dashboard portal	API for user access available
Battery / Charger	Lithium-ion Battery Pack 7.2 V	
Power	Sensor: Battery-powered, approximately one week battery life under typical operating conditions Receiver Module/In-Cab Display/ Telematics: 9-16 VDC	Battery life indicated on in-cab display and customer dashboard. Two batteries plus charger supplied, so one battery is always charging. Battery swap can be done in less than one minute.
Operating Temperature	Sensor, Receiver, Telematics, and In-Cab Display modules: -4°F to 140°F (-20°C to 60°C) Charger: 32°F to 113°F (0°C to 45°C)	
Storage Temperature	All components: -40°F to 158°F (-40°C to 70°C)	
Protection	Receiver: IP-66, Sensor: IP-67 Display & Charger: IP-20	

Contact CiDRA Concrete Systems
To speak with an applications engineer about CiDRA’s SMART*hatch* systems or other CiDRA industrial process measurement solutions, call +1.203.265.0035 or visit our web site at www.cidra.com.

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