SNOW & ICE
IQ-200

Integrated Spreader Control System

Parker Hannifin Canada
WI-MK238

IQ-200

Spreader Control System

The IQ-200 is an IQAN-based spreader control system tailored for a wide range of spreader applications including granular, prewet, anti-icing, symmetry, and tow plow operations, as well as other uses like flushers, drip tanks, and asphalt hotboxes. The RAM-mounted controller features a 7" automotive-grade display with a glass touchscreen and 3 or 4 detented encoders for rate selection. It also includes self-diagnostics and supports remote troubleshooting through a Parker G12 Bluetooth device and a mobile app.

Hydraulic functions are driven by the Parker IQAN-MC43 Controller, which interfaces with the IQAN-MD4 display through a CAN bus for seamless operation. The system features comprehensive data logging capabilities, meticulously recording operational changes such as spread distance and quantity, liquid and anti-icing volumes, boom activity, blast details, and pause intervals, alongside rate, material, and gate adjustments, and error messages. For enhanced connectivity, it includes both J1939 and serial interfaces, facilitating third-party AVL integration.

Rugged design for safer vehicles

- All IQAN modules designed for the functional safety of spreader systems
- All IQAN control units thoroughly tested, built for the toughest environments
- Molded colour-coded cables with stainless steel IP69 push-pull connectors
- Compliant with industry standards for operation in severe conditions

Advanced diagnostics

- Built-in ground speed simulator for diagnosis and actual system simulation
- All wiring harnesses with diagnostic LEDs and stainless steel IP69 connectors
- Remote software update and diagnostics via Parker G12 Bluetooth gateway
- Intelligent diagnostics, reducing downtime and making maintenance easier

Intelligent features

- System scalable and configurable for various spreader applications
- Valve auto-tune, auto-calibration, and guided drop test
- Speed pick-up from frequency input or J1939
- Supports both J1939 and serial communication for 3rd party AVL interface
- 8-channel 10A large load relay outputs with optional relay box
- Supports various infrared pavement and air temperature sensors
- Supports digital high resolution Parker IP cameras
- Supports material detection, liquid level, hydraulic pressure and temperature sensors

Intuitive and user-friendly

- Intuitive user interface and navigation menus
- Easy to customize or change as required

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IQAN-MD4 Display

- 7" TFT wide VGA, 800 x 480 pixels, 262,144 colours
- Capacitive glass touch screen, 7H hardness
- Adjustable backlight, brightness of 400 cd/m2
- Maximum allowable touch screen point load: 1.47
- 4 CAN buses, 1 Ethernet port, 1 Camera port

IQAN-MC43 & Smart Module

Inputs

- 6 analog/digital inputs
- 8 digital inputs
- 6 frequency speed inputs

Outputs

- 6x2 current outputs
- 12 digital outputs, high side

Interface

- 4 CAN buses, CAN A, CAN B, CAN C, CAN D

IQAN-G12 Bluetooth Communication Adapter

- CAN gateway using Bluetooth wireless technology
- System diagnosis on-site or remotely
- Parameter download on-site or remotely
- Application software update on-site or remotely

IQAN-SV IP Camera

- Support for multiple cameras
- Wide field of view
- Adjustable mount
- High frame rate

Harnesses

- Push-pull connection
- Molded connectors with IP69 protection
- Colour coded connectors
- Lighted signal & valve output connections

IQAN Hardware Environmental Specifications

Operating Temp	- 40 to +85 °C	-40°F to 185°F
Storage Temp	- 40 to +85 °C	-40°F to 185°F
Enclosure (water,dust)	IEC 60529:2001, IP65; DIN 40050 Part 9:1993	
Salt Mist	IEC 60068-2-52:1996 Kb, 72 h	
Damp Heat: Cyclic	IEC 60068-2-30:2005 Db, +55°C, 95% RH, 6 cycles	
Damp Heat: Steady State	IEC 60068-2-78:2001 Cab, +40°C, 93% RH, 21 days	
Heat: Operation	IEC60068-2-2:2007 Bb, +85°C, 72 hours	
Heat: Storage	IEC 60068-2-2:2007 Bb, +105°C, 240 hours	
Cold	IEC 60068-2-1:1993 Ab, -40°C, 16 hours	
Change of Temperature	IEC 60068-2-14:1984 Nb, - 30°C to +70°C, 100 x 4 hours	

IQAN Hardware Mechanical Environment

Random Vibration	IEC 60068-2-64: 2008 Fh, 15 - 1000 Hz, 11.6 Grms, 3 x 10 h
Bump	IEC 60068-2-27:2008 Ea, 40 g, 6 ms, 1000 * 6 dir

IQAN Hardware CE Markings & Approval

E-Mark	ECE regulation No. 10.05:2014, Approval number E5 10 R - 05295

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IQAN Hardware Electromagnetic Capability

EMC Harmonized Standard	ISO 14982:2009, ISO 13766-1:2018
Radiated Emission	ISO 13766-1:2018/ISO 14982:2009
Conducted Emission	EN 55025:2008, 0.15-108 MHz, Class 1
Conducted Susceptibility	ISO 11452-4:2011, 1 - 200 MHz, 1 kHz, 80% AM, 150 mA
Radiated Susceptibility	ISO 11452-2:2004, 20-80 MHz, 1kHz, 80% AM, 60 V/m
	ISO 11452-2:2004, 80-2000 MHz, 1kHz, 80% AM, 100 V/m
	ISO 11452-2:2004, 800-1000 MHz, PM 577 us/4.6 ms, 100 V/m
	ISO 11452-2:2004, 1-2 GHz, PM 577 us / 4.6 ms, 60 V/m
	ISO 11452-2:2004, 2-2.4 GHz, PM 577 us / 4.6 ms, 10 V/m
	ISO 11452-2:2004, 2.4-2.7 GHz, PM 577 us / 4.6 ms, 5 V/m
Conducted Transients Susceptibility	
	ISO 7637-2:2011, Pulse 1, 2a, 2b, 3a, 3b, Level 3
	ISO 16750-2:2012, Starting profile: Level 4, Load dump: Level 3
	ISO 7637-3:2007, Level 3
Power Supply Ramp	SAE J1455:2011, Section 4.13.1
ESD: Operation	ISO 10605:2008, 8kV (contact), 15kV (air)
ESD: Handling	ISO 10605:2008, 8kV (contact)

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