



SNOW & ICE IQ-300

Integrated Spreader Control System

Parker Hannifin Canada
WI-MK239



IQ-300

Spreader Control System

The IQ-300 is a versatile IQAN-based control system designed for a wide range of applications, including plow, wing, and spreader operations for granular, prewet, anti-icing, Symmetry, and tow plow, as well as flusher, drip tank, and asphalt hotbox tasks. The system features a 7" automotive-grade touchscreen display, RAM-mounted to an armrest, offering joystick or paddle controls for plow functions and 3 or 4 detented encoders for rate selection. It includes self-diagnostic capabilities and supports remote troubleshooting via a Parker G12 Bluetooth device and a mobile app.

Hydraulic functions rely on the Parker IQAN-MC43 Controller, connected to an IQAN-MD4 display through a CAN bus. The system comes with comprehensive data logging, capturing every operational change, including spread distance and quantity, liquid and anti-icing volume, boom status, blast details, and pause intervals, as well as rate, material, and gate adjustments, along with any error messages. It also provides J1939 and serial interfaces for third-party AVL integration, enhancing connectivity and data management.



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 plow and 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
- 22 digital inputs
- 6 frequency speed inputs

Outputs

- 10x2 current outputs
- 12 digital outputs, high side
- 8 digital outputs, low side
- 4 PWM/DO outputs

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	IEC 60068-2-2:2007 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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