INTELLIAG® *ISO$_6$*™ CONTROL SYSTEM

Built for Success | Flexibile, Simple, Reliable

DICKEY-john has over 50 years of experience in the agriculture electronics industry with more than a decade committed to the development of ISO 11783 controls solutions. The IntelliAg® ISO$_6$™ is the next-generation control platform that leverages this expertise in order to develop a state-of-the-art control system. By focusing on flexibility, simplicity, and reliability, the ISO$_6$ delivers a set of features and functionality that will keep you ahead on the cutting edge of technology.

One *ISO$_6$* Working Set Master Module Delivers:

- Up to 8 channels of closed and open loop control for multiple materials including: seeding, granular and liquid applications.
- Integrated 16 seed sensor inputs for advanced seeding quality information such as: seed singulation, spacing, skips, multiples, etc.
- Integrated hydraulics interface for mapping and sequencing of both folding and working hydraulic operations.
- Modern interface that is familiar to virtually all users and incorporates a highly customizable top menu and work screen.
- Modular system to meet the needs of multiple model configurations while offering future incremental upgradability.
- Trusted complimentary system products such as the Working Set Member 2 Module, Accessory Input Module, and ISO Output Modules that have multi-year in-field runtime.
- Fully field tested and validated system on a multitude of configurations that meet and exceed today's maximum use-case applications.

Winning Partnership

Our dedicated development team is focused on supporting all aspects of the evaluation-to-acceptance product adoption process. As the economics of precision agriculture evolve along with your need for differentiation in the marketplace, DICKEY-john is prepared to work together to meet all challenges.

DICKEY-john®
A DIVISION OF TSI®

ISO₆ WORKING SET MASTER MODULE
Technical Specifications

MONITORING		
Feature	**Description**	**Details**
Population Monitoring	• Up to 120 Rows	—
	• Bar graphs that indicate seeding rate percentage vs. target population rate	• Define target population. High/Low Pop Alarm Limits • Implement dimensions (number of rows, row width, row state) • Speed Input Source (Radar, GPS, Wheel Speed Senor, Tractor Radar Output)
Blockage Monitoring	• Up to 120 Rows	• Detect product blockages and restrictions defined by user • Ability to indicate relative flow with row bargraphs
	• Bar graphs that indicate flowing or not flowing material	• Digital input from seed sensor
	• Configurable minimum flow rate e.g. 1 seed every 10 seconds	• Granular Control and Monitor materials now allow selecting seeds per area units for Seeding
Quality and Spacing	• Up to 96 rows	• (16 rows on ISO₆, 18 rows on WSMB/WSMB2)
Singulation	• Percentage value of the average number of Skip/Doubles • Percentage Skips/Doubles	• Row by Row detail and implement average
Spacing Quality	• Average seed spacing accuracy based on target seed spacing vs. measured	• Based on desired seeding population, row width • Row by Row detail and implement average
Bar Graphs	• Up to 48 rows of quality/population • Adjustable size • Automatic row scan	• Narrow, Medium, Wide • 1 second data update

GROUND SPEED INPUTS		
Feature	**Description**	**Details**
NMEA CAN GPS Ground Speed	• 129026 COG & SOG, Rapid Update	—
CAN Ground Speed	• Radar Speed for the TECU controller as per the ISO 11783 standard	—
CAN Wheel Speed	• Wheel Speed for the TECU controller as per the ISO 11783 standard	—
Implement Speed	• Direct frequency input for the Radar Sensor (0.5Hz - 6KHz Frequency range)	• From Built in Digital Input

ACCESSORY SENSOR		
Feature	**Description**	**Details**
Hopper Level Sensor Support	• Sensor type must be NPN	• NPN needs positive current flow into the base of the transistor to turn on
	• Up to 7 Hopper level sensors	• Up to 5 on ISO₆, up to 2 on Accessory module
RPM Sensor Accessory Sensor Support	• Sensor type must be NPN	• NPN needs positive current flow into the base of the transistor to turn on
	• Up to 4 RPM sensors on the system	• 3 sensors on a ISO₆ or 4 sensors on an Acc. module (or any combination of 4)
Air Pressure Accessory Sensor Support	• Up to 4 Pressure/Vacuum Sensors	• Up to 4 on ISO₆, or 2 on Acc module. (or any combination of 4) • Units: KPA - PSI

CONTROL

Feature	Description	Details
8 Channels of Control	• Up to 8 PWM, 4 Servo	—
Liquid Flow	• PWM/Servo Control • Closed/Open loop	• Gallons per Acre • Litre per Hectare
Granular Seeding/Fertilizer	• PWM/Servo Control	UNITS: • Pounds per Acre • Thousand seeds per square foot • Thousand seeds per acre • Thousand seeds per meter squared • Thousand seeds per hectare
	• Closed/Open Loop • Seed count per area or mass per area target rates • Thousand grain weight support	—
3 Product Classes	• Granular Seed • Granular Fertilizer • Granular Crop Protect	—
Hydraulic Planter	• PWM Control • Closed/Open Loop	UNITS: • Thousand Seeds per Acre • Thousand Seeds per Hectare
	• Seed count per area target rate	—
	• Continuous calibration	—
	• Fill Disc Feature	• Precisely rotates controls to pre-load seed onto the seed disc
IRC Seeding	• Closed loop control using CAN open motors	• Two high side outputs provide soft start motor power bus
	• Compatible with CiA 402 CAN open motors	—
	• Operates on CAN2 with soft start power bus management	—
	• 2 rows per IRC module	—
	• 2 seed sensor inputs per module with advanced seed data	—
	• 24 modules maximum	—
	• 24V motor bus (12 and 36V upon request)	—
	• Section control per row	• Up to 24 Sections
	• Up to 8 channels of variable rate control	—
	• Turn compensation	—

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CONTROLLERS CONT.

Feature	Description	Details
Monitor Only	• Records Area cover and Material Applied up to 120 rows	—
Fan Control	• PWM/Servo Control	• Units: RPM, CFM, M^3/HR
Remote Calibration	• Test Switch	• Allows user to start calibration near seed meter
Channel Linking	• Rate Linking	• Channels Inc/Dec rates at the same time
	• On/Off	• Channels turn on/off together
	• Master/Subordinate	• Subordinate channels turn off with Master
Section linking	• Master/Subordinate	• Subordinate sections turn off with Master

AREA ACCUMULATORS

Feature	Description	Details
Field Names	• Records Area cover and Material Applied	• Custom file names
Area Accumulation	• Total Area Applied	• Sum of all area applied for all channels of the same material type
	• Channel Area	• Based on the number of sensors assigned to that channel and row width • Channel width will decrease with failed rows, tramline rows, or off rows (clutches)
	• Field Area	• Up to 5 fields that will track total area, and channel area separately. Customizable name

MODULE INFORMATION

Feature	Description	Details
ISO₆ Master Module	• Master Control Module	• Configurable I/O
WSMB	• Working Set Member Module	• Up to 18 Rows Population Data
WSMB2	• Working Set Member 2 Module	• Up to 18 Rows Population/Quality Data
POM (Power Output Module)	• Power Output Module	• Up to 8 outputs (total 7.5A max)
FCOM	• Folding/Aux Hydraulic Output Module	• 8 outputs, 4 inputs (total 7.5A max)
RSM	• Row Switch Module	• 6 Section Switches (Rocker Type)
ESM	• Extended Switch Module	• 6 Additional Section Switches (Rocker Type)
TROM (Tramline Output Module)	• Tramline Output Module	• 8 outputs, 4 inputs (total 7.5A max)

TASK CONTROLLER

Feature	Description	Details
Section Control	• AEF TC- BAS, TC-SC, TC -GEO	___
Variable Rate/As Applied	• Planter channels, Liquid channels, Granular channels for VRA • Section Control Turn On and Off Time parameters have been added to the Task Controller Options menu per Operation.	• As applied based on control channel application rate
Advanced Task Controller	• Combine Channels • Combine Sections	• Ability to adapt to restricted UT capabilities

CONFIGURATION IMPORT/EXPORT

Feature	Description	Details
User Configuration Export to XML	• ISO File Server compatability	___
Import Configurations	• Import/Export machine settings	___

USER INTERFACE

Feature	Description	Details
Top Menu App Based Layout	• Configurable to only include system applicable buttons • Can be tailored to the individual OEM	___
Work Screen Configurable Display	• Accessories	• 5 Hopper levels, 4 RPM speeds, 3 Pressure Sensors
	• Seeding	• Population Graph • Target rate, low/high row, average • Population, Spacing
	• Control	• Channels 1-8 target rate bar graph
	• Population Bar Graphs	• Narrow, Medium, or Wide Width • Scan time adjustment • Channel selection
	• Quality Bar Graphs	• Narrow, Medium or Wide Width • Scan time adjustment • Spacing variance percentage adjustment • Channel Selection
	• Product Levels	• Estimated Area Remaining • Estimated Product Remanding • Custom product capacity setting
	• Sections/Boom	___
	• Singulation Data	• Singulation, Skips, Multiples, Quality
	• Area	• Efficiency (area/hour) • Channels 1-8 Selection • Channel Scanning
	• Materials	• Total Seeds • Channel Seeds • Channel Scanning
	• Tramline	• Graphic over bar graph to indicate tramline status for that row
	• Aux Hydraulics	• Control Aux outputs from work screen
	• Virtual section switches	• 24 switches max. 3 per

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(UT) COMPATABILITY

Feature	Description	Details
Universal Terminals Tested	• CNH Pro 700	—
	• John Deere GS3	—
	• John Deere 4640	—
	• Topcon X30	• Aftermarket
	• Trimble TMX 2050	—
	• Ag leader InCommand 1200	—
	• CCI 1200	—
	• Object Pool version now V4 compatibility	—
UT compatability	• AEF UT Certification • UT version 4	—

OEM CUSTOM FEATURES

Feature	Description	Details
Keyed Features	• Allows OEM to pay for what is required	• Frame Folding/Working Hydraulics • Down Pressure • Up to 8 Channels (2 channels is standard) • Virtual Section Switches • IRC • Tramlining • Advanced Seed Data
OEM Customizable Default Settings	• Allows user to customize settings module will default to	—
Configurable I/O	• Configure I/O based on harness selection • Custom OEM input/output development based on custom harnesses	—
Production Loadable Branding Files	• Ability to give each controller a unique P/N to OEM	• Can implement OEM screens or OEM custom Icon colors

SECTION CONTROL

Feature	Description	Details
Base Clutch and Boom	• 24 Clutch outputs	• Utilizes output modules
	• 8 outputs per module	—
	• Up to 6 Output Modules	—
	• Solenoid Drivers	• Ouput loads > 2 amps
Swath by Channel	• Up to 8 Swath by Drive	• No Output Modules required
Virtual Section Switches	• Up to 24 virtual sections controlled through an instrument on the work screen	• 3 switches per instrument

TRAMLINE CONTROL

Feature	Description	Details
Half Width Shutoff	• Two outputs for the tramlines with Max current of 3A • Support for both solenoid activation of half width or on/off channel command where a seeder is equipped with 2 meters	—
Pre-Emergence Marker Monitoring	• Monitor Pre-emergence marker	• (Air Seeder Only)
Bout Marker	• Two outputs dedicated to bout markers with input signals	—
Advanced Tramline	• Automatic tramline shutoff calculation	• Required TROM module

FOLD/WORK HYDRAULICS

Feature	Description	Details
FCOM Module	• Up to 8 modules per system	—
	• 8 outputs per module	
	• Up to 8 fold Step Functions • Up to 8 outputs per function	• Not Accessible from Work Screen
Work Hydraulics	• Up to 8 Work Hydraulic Functions • Up to 8 outputs per function	• Accessible from Work Screen
Interlocks	• Ability to create interlocks to limit travel of hydraulic cylinders based on cylinder position	• Requires feedback position sensor

AUX FUNCTIONS

Feature	Description	Details
Master Switch	• Latching Boolean Type	• Aux N

LANGUAGE SUPPORT

Feature	Description	Details
V6.XX	• Czech • German • English • Spanish • French • Italian • Dutch • Brazilian Portuguese • Russian • Ukrainian	—