



**We make
highways
talk™**

- **MANAGEMENT**
- **SAFETY**
- **PRESERVATION**

International Road Dynamics Inc. develops and maintains traffic management products and systems technology that make highways talk. What are they saying? They are providing information that roadway administrators need to manage traffic, preserve infrastructure and provide safety warnings to drivers.

IRD's multi-discipline, innovative and customer-focused team is expert in advanced technologies, advanced traffic solutions and custom-designed systems.



**CUSTOMER
DRIVEN™**

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iSINC™ Electronics

The iSINC™ electronics form the core of IRD's traffic and truck Weigh-In-Motion (WIM) systems. Out of the box, iSINC™ performs a broad range of ITS functions from data collection and web-based traffic monitoring to weigh-station automation.

The iSINC™ connects with in-road sensors, signage, Automated Vehicle Identification (AVI) readers, cameras, communications systems, and custom equipment. Its modular hardware and software technologies result in vastly configurable, scalable and reliable systems.

Features:

- Real-time operation and integration
- Powerful multi-tasking software
- Hardened electronics and weatherproof enclosures



CE

Applications:

- Commercial Vehicle Operations (CVO)
- Virtual Weigh Stations
- Traffic Data Collection
- Bridge Monitoring
- Border Crossing and other ITS Applications

iSINC™ Electronics Modules

WIM CONTROL UNIT (W3)

The W3 network-based plug-in module is the heart of the iSINC™ product line. It configures, monitors, and controls all connected iSINC™ equipment, and aggregates sensor module reports to build sophisticated data collection and commercial vehicle operation (CVO) systems.

IRD's Open CVO protocol provides unprecedented integration capability, allowing real-time interaction between iSINC™ and customized processes running on external equipment.



HIGHLIGHTS

- Monitors up to 16 lanes simultaneously
- Creates and stores vehicle records
- Classifies and performs compliance checks as per standard and user-defined WIM-based schemes
- Transfers stored and real-time vehicle data
- Supervises sorting, signing and compliance operations
- Integrates with larger systems
- Provides network and serial based user interfaces

VIRTUAL WEIGH STATION MODULE (VWS)

The VWS module delivers a web browser user interface to the iSINC™, making real-time data remotely accessible.



HIGHLIGHTS

- Monitors up to 16 lanes simultaneously
- Can enable/disable up to 4 cameras per lane
- User settings allow filtering by class, lane, camera and violations
- User-set report and bypass parameters
- Vehicle record data includes: lane, vehicle number, class, length, speed, GVW, time and date
- Will produce a printable pdf report displaying detailed information for any vehicle

SCALE SENSOR MODULE (SSM)

The SSM connects iSINC™ systems to IRD and PAT WIM scales. The SSM monitors, measures, and reports wheel or axle weight from multiple scale platforms. It forwards road temperature data to the W3 (iSINC™ WIM Control Unit) for use in temperature compensation. The sophisticated signal processing of the SSM ensures accurate weighing over the full range of static to mainline weighing speeds.



HIGHLIGHTS

- Monitors up to four resistive bridge weighing platforms simultaneously
- Automatically compensates for drifting scale baseline signals
- Suppresses scale ringing signatures
- Reports wheel or axle weights in real-time
- Forwards road temperature data from an in-road temperature sensor
- Produces real-time scale signal traces on request

PIEZO SENSOR MODULE (PSM)

The PSM connects iSINC™ systems to piezoelectric axle and WIM sensors. The PSM monitors, measures, and reports wheel or axle presence (class I) and/or weight (class II) from multiple piezoelectric sensors. It forwards road temperature data to the W3 (iSINC™ WIM Control Unit) for use in temperature compensation. The sophisticated signal processing of the PSM ensures accurate weighing at speeds of 10 kph up to 250 kph.



HIGHLIGHTS

- Monitors up to four piezoelectric sensors simultaneously
- Reports wheel or axle weights in real-time
- Forwards road temperature data from an in-road temperature sensor
- Produces real-time sensor signal traces on request

LINEAS® QUARTZ SENSOR MODULE (KSM)

The KSM connects iSINC™ systems to Lineas® Quartz WIM sensors. The KSM monitors, measures, and reports wheel or axle weight from multiple quartz sensors. It forwards road temperature data to the W3 (iSINC™ WIM Control Unit) for use in temperature compensation.



The sophisticated signal processing of the KSM ensures accurate weighing at speeds of 10 kph up to 250 kph.

HIGHLIGHTS

- Monitors up to four Lineas® Quartz sensors simultaneously
- Reports wheel or axle weights in real-time
- Forwards road temperature data from an in-road temperature sensor
- Produces real-time sensor signal traces on request

DIGITAL I/O MODULE (DIOM)

The DIOM connects iSINC™ systems to devices with digital contact closure outputs and switch inputs. Its vast array of functions makes it an indispensable tool for interfacing to a wide variety of OEM devices.



HIGHLIGHTS

- Monitors up to eight digital input or output channels
- Individually programmable channels for I/O direction, polarity, and voltage
- Programmable output modes and periods: DC, square-wave, and one-shot pulse
- Programmable input de-bounce times
- Configurable output-mirroring of remote or local inputs
- Outputs may be overridden for manual control
- Built-in I/O pull-up resistor

SERIAL BRIDGE MODULE (SBM)

The SBM bridges its asynchronous serial port (RS-232) and CAN bus interfaces. The module allows connection of protocol-compatible RS-232 connected equipment to the iSINC™ system.

SBM's are most often used in pairs to bridge the iSINC busses of two separate subbracks (CAN ↔ RS-232 ↔ CAN). Modems and/or fiberoptic-to-serial media converters may be used to allow operation over extended distances.



HIGHLIGHTS

- Bridges CAN bus and RS-232 port bidirectionally
- DTE RS-232 port at data-rates of up to 57.6 kbps

SERIAL CONTROL MODULE (SCM)

The SCM connects iSINC™ systems to serial devices. A wide variety of application code currently exists making the SCM an indispensable tool for interfacing to and controlling various OEM serial devices.



HIGHLIGHTS

- Monitors and controls one serial device
- Firmware applications support serial devices including:
 - Automatic Vehicle Identification (AVI)
 - License Plate Readers (LPR)
 - US DOT Number Readers
 - HELP data format devices
 - Static Scale Heads
 - Variable Message Signs
 - PrePass data format devices
- DTE RS-232 port at data-rates of up to 57.6 kbps

LOOP SENSOR MODULE (LSM)



The LSM connects iSINC™ systems to inductive loop vehicle presence sensors. The LSM monitors, measures, and reports vehicle presence from loop sensors. The sophisticated signal processing of the LSM ensures accurate loop detection at speeds of up to 200 kph.

HIGHLIGHTS

- Monitors up to four inductive loop sensors simultaneously
- Reports vehicle presence in real-time
- Provides loop detuning values for enhanced classification and matching
- Independently programmable channel frequency and sensitivity
- Produces real-time sensor signal-traces on request



iSINC™ Models Specifications



iSINC™ TCSM/TCSM CE



iSINC™ 334



iSINC™ Lite CE

Model	Dimensions HxWxD (mm)	Outdoor cabinet	Operating temperature -40C to +65C	Humidity 0% to 90% (non-condensing)	Compatible with all iSINC modules	Max iSINC modules	Max I/O panels	Max AC switched sign outputs	Max Dynax inputs	Extensible (up to 648 I/O per system)	36W AC/DC supply (120/240VAC, 50/60Hz)	90W AC/DC supply (120/240VAC, 50/60Hz)	Battery back-up (batteries not inc.)	Solar charger (panels/batteries not inc.)	Screwless I/O termination	Over-voltage I/O protection (gas discharge)	Service GFI duplex outlet (N. Am. only)	Surge protected AC duplex outlet (N. Am. only)	Second AC duplex outlet (N. Am. only)	CE (IEC/EN 61326-1) / RoHS Compliant
iSINC Lite CE	150 x 265 x 280		✓	✓	✓	10	9			✓	✓		✓		✓	✓				✓
iSINC SSR9U	445 x 334 x 318		✓	✓	✓	10	6	2	4	✓	✓		✓		✓	✓	✓	✓		
iSINC SSR9U CE	445 x 334 x 318		✓	✓	✓	10	6		4	✓	✓		✓		✓	✓				✓
iSINC SR12U	607 x 534 x 305		✓	✓	✓	20	12	8	48	✓		✓	opt	opt	✓	✓	✓	✓	✓	
iSINC SR20U	534 x 458 x 966		✓	✓	✓	20	12	8	48	✓		✓	opt	opt	✓	✓	✓	✓	✓	
iSINC TCSM	591 x 473 x 423	✓	✓	✓	✓	10	6	2	4	✓	✓		✓		✓	✓	✓	✓		
iSINC TCSM CE	591 x 473 x 423	✓	✓	✓	✓	10	6		4	✓	✓		✓		✓	✓				✓
iSINC 336	1194 x 610 x 578	✓	✓	✓	✓	20	12	8	48	✓		✓	opt	opt	✓	✓	✓	✓	✓	
iSINC 334	1702 x 610 x 826	✓	✓	✓	✓	20	12	8	48	✓		✓	opt	opt	✓	✓	✓	✓	✓	
iSINC ERK	2058 x 559 x 635	✓	✓	✓	✓	20	12	8	48	✓		✓	opt	opt	✓	✓	✓	✓	✓	

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