



Navix™ ST-110 – a LASC compliant Inertial Navigation Interface

Navix™ ST-110 is a shearer-mounted Inertial Navigation Interface for use in a LASC compliant longwall mining operation. The unit establishes the crucial link between an Inertial Navigation Unit (Sensor) and other components of a LASC compliant Longwall guiding system.

It is based on the CSIRO-developed proof-of-concept Landmark SPMS. The Inbye-designed Navix™ ST-110 is the first commercially available replacement.

A complete Inbye-supplied LASC system consists of a precision Inertial Navigation

Unit (Sensor), a Navix™ ST-110, a LASC processing server, software packages and networking communications to shearer and roof support computers.

The Navix™ ST-110 is a compact unit, providing power management and sensor data processing functionality. It is implemented as several plug-in modules in a modular rack format, which simplifies maintenance and component replacement.

The Power management sub-system comprises a managed ultra-capacitor storage facility and charge/discharge control. It maintains

power for an extended period after power drop-out. Reference data is saved and retrieved on the next start-up.

The Sensor Interface sub-system consists of an INU Interface (IIB), a processor (CPU), and Ethernet distribution, implemented as plug-in modules. The sub-system connects to the INU, manages INU data and collates all communications to the other LASC networked components.

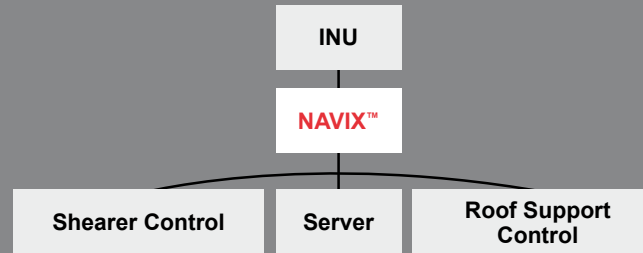
Features

- Module inter-communication via hard-wired backplane links (minimized inter-module cabling).
- The UPS uses recent ultra-capacitor technology, with over charge headroom and temperature stability.
- Dual redundant UPS discharge path for increased safety.
- The system is certified compliant with world-wide standards for emissions and immunity.
- Extension slots provide for future technology add-ons without any hardware changes.
- Optional diagnostic display increases safety awareness.



LASC Compliance

Interconnection of Landmark Compliant Longwall Mining Equipment – Shearer Communication specification for OEM-accessible SPMS Data
(LASC specifications obtainable from CSIRO, Australia)

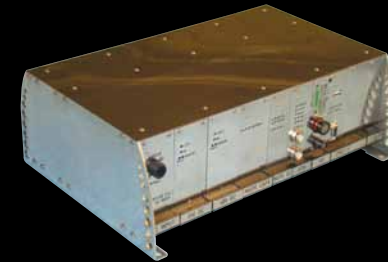


Specification

Electrical	SUPPLY VOLTAGE	240V AC or 110V AC, factory selected
	POWER CONSUMPTION (NO LOAD)	300 W
	POWER CONSUMPTION, CHARGED (NO LOAD)	85 W
	UPS FULL CHARGE PERIOD (90% OR MORE)	40 seconds
	UPS RUN-TIME FROM POWER LOSS (NO LOAD)	1.5 minutes
	UPS DISCHARGE PERIOD (NO LOAD)	13.5 minutes
	CONNECTIONS	AC input, Diagnostic display (RS422), INU DC output, LN270 Data (Proprietary), LANDINS (Proprietary), Ethernet UTP (Industrial) x 2
Mechanical	Size	425 x 295 x 150 (mm)
	Material	Stainless Steel
	Weight (without cabling)	11 kg
	Mounting	4 x M8 mounting holes
EMC and safety certification	C-Tick	AS/NZS CISPR22 Class A
	CE	emissions to EN55022, Immunity to EN55024
	U	FCC Part 15 Subpart B
	ICES	ICES-003
	SABS	emissions to SANS 222(CISPR22), immunity to SANS 224 (CISPR24)
Environmental	Temperature (Operating)	0 - 65°C
	Humidity	0 - 95% RH

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