

DIGITAL INDUSTRIES SOFTWARE

Simcenter SCADAS ES Digital Conditioning Units

Simcenter/SCES/DI/2026

Product Information Sheet

Summary

These Simcenter SCADAS ES Unit(s) provide interface with CAN and CAN-FD buses:

	Digital in	Channel supply
Code	CAN	DC
SCES-CN4	4	✓

FEATURES

- 4x CAN buses supporting CAN 2.0B, CAN-FD
- Support of TCK8 unit (2x per CAN bus)
- Available in DB9 connectors (Simcenter SCADAS Mobile/Lab CN4 compatible)

BENEFITS

- High performance lab and mobile solutions
- Reliable high-speed, high-channel data acquisition
- Easy mounting and instrumentation
- Easy stacking of units without tools
- Centralized and distributed configurations
- Daisy chaining between stacks
- Use with Simcenter Testlab or with the on-board Simcenter SCADAS Go Configuration / Recorder (accessible through any web browser via PNI or PNU units)

Simcenter SCADAS ES Product Family

Simcenter SCADAS ES is a laboratory and mobile system, part of the Simcenter SCADAS signal conditioning and data acquisition systems family.

Simcenter SCADAS ES is both a distributed and centralized system for front-end signal conditioning and data acquisition hardware. Simcenter SCADAS ES is especially designed for high-performance lab and mobile solutions, reliable and high-speed throughput data acquisition, ideal for high-channel count testing.

Simcenter SCADAS ES Units are combined and stacked by a toolless mechanism, and come in 1 or 2 slot sizes. Some of them come in different connector flavours, normally indicated by its product code suffix.

Each Simcenter SCADAS ES stack can deliver a total throughput up to 17 MSamples/s using 1 Gbps Ethernet ports via a Powered Network Interface Unit (PNI) or a Uninterruptible Power Network Interface Unit (PNU), and supports up to 8x slots of Conditioning Units and a REC unit.

Use Simcenter Testlab or the on-board Simcenter SCADAS Go Configuration and Simcenter SCADAS Go Recorder for instrumentation, channel setup, calibration, sensor validation, measurement control, on-line data viewing and after measurement.



Simcenter SCADAS ES Stack

Included Units

Simcenter SCADAS ES 4 CAN bus Unit	
	Product Code SCES-CN4 Description This SCES unit provides 4 CAN and CAN-FD buses via 2 D-sub 9 connectors in a single slot unit. Supported buses CAN 2.0B, CAN-FD This Unit supports 2x TCK8 per CAN bus. Features • 4x CAN buses Connectors – Mating cables included • 2x DB9 (Simcenter SCADAS Mobile/Lab CN4 compatible) with 2x CAN buses per connector Size 1-slot Power input Via stack backbone Connectivity Accessible in a Simcenter SCADAS ES stack via PNI or PNU units

General

Each system may consist of one or more Simcenter SCADAS ES stacks and is based on Linux OS, providing connectivity and the on-board web app Simcenter SCADAS Go Configuration (or Simcenter SCADAS Go Recorder when a Recorder unit is present in the stack).

Data protocol	Ethernet based.
Backbone bus	Each unit shares this bus with power and data when stacked via backbone connector. • Input power • 1 Gbit Ethernet for data and control 48V DC distribution power • Clock reference signal • Real-time bus with low latency • Calibration and input channel diagnostics reference signal • System & Power control signals
Non-volatile memory	Configuration and channel settings stored in the unit.
Unit feedback	Following unit information is reported via LED and to the user interface: booting, upgrading, identification, internal error, active.
Grounding	Units in a stack have a provision for grounding from PNI or PNU via backbone.
Boot time	PNI or PNU will boot a stack of units within 3 min.
User interface	Via on-board Simcenter SCADAS Go Configuration / Recorder web application available in PNI and PNU units.
Dimensions	• Units come in 2 flavors: 1 slot or 2 slot units. • Dimensions when stacked [W x H x D]: ◦ 1 slot unit: 24 x 173 x 282 [mm]. ◦ 2 slot unit: 49 x 173 x 282 [mm]. NOTES: ▪ Width does not include 8 mm stacking feet ▪ Depth does not include front connector sockets
Weight	1 slot unit: 1.3 kg average. 2 slot unit: 2 kg average.
Stack calibration	Via dedicated CAL connector available in PNI and PNU units.

Clock synchronization

Clock source

Internal (PNI or PNU): generates the internal clock signal PTP for the backbone of the stack of units.

External: supports a present clock source in the backbone generated by another unit.

Clock accuracies

PTP (IEEE1588)	< 70 ns (when Sync-E is not supported in the network)
Sync-E + PTP	< 10 ns

GNSS	180 ns (typ, from another unit in the stack like REC)
IRIG-B	< 100 ns
NTP	< 1 ms (TBC)
Free running mode	< 5 ppm at 25 °C

Units Channels

General

All (conditioning) units are internally based on a sub-channel modularity, called channel group, usually a 3-channel group for analog conditioning units.

Digital buses and inputs

CAN bus

Support	CAN2.0A/B and CAN FD ISO 11898-1 compatible.
	SAE J1939 standard supported.
	XCP* (version 1.4 and Packed DAQ) over Ethernet and over CAN with configuration through A2L description file.
	Up to 8xTCK8 (TCK8-A and TCK8-B pair per CAN bus) conditioning units: up to 64x thermocouple channels.
	Offline XCP supported.
	If REC or TL connected: CAN data can be interpreted, interpolated, and stored on the REC unit: • in raw format • in LDSF format (*) Available in future FW releases.
Speed	CAN-FD up to 8 Mb/s
	CAN High Speed (ISO 11898-2): up to 1 Mb/s
	CAN Low Speed (ISO 11898-3): up to 125 kb/s
	Note: max. 2 CAN bus can be set to CAN-FD (speed above 1 Mb/s)
Cable distance	30 m except CAN-FD 10 m
Galvanic Isolation	Signal ground is isolated from chassis ground and other connectors signal ground.
Protection provision	Maximum voltage without damage: ± 26 V

Channel supply

General

Protection provision

Short-circuit protected.

0 V or No Supply conditioning: $V_{\text{supply}+}$ (and $V_{\text{supply}-}$ when applicable) pins become floating (high impedance).

DC

CAN bus channel

DC unipolar supply of 15 V ($\pm 5\%$) up to 300 mA is available per connector (2 CAN buses, software selectable).

Environmental

Temperature range	- Operating: -20 °C to +55 °C (40 °F to 149 °F) - Storage: -40 °C to +85 °C (40 °F to 185 °F)
Ambient pressure	0.5 bar to 1.3 bar (50 kPa to 130 kPa) according to IEC 60068-2-13. Altitude: –2000 m (mining) to 5000 m (mountains).
Water and dust protection	IP20
Humidity	Resistant to humidity according to IEC 60068-2-30 (cyclic damp heat 12 h + 12 h).
Vibration	MIL-STD-810H, Method 514.8, category 24, 7.7 gRMS, 20-2000 Hz, 1 h per axis.
Shock	MIL-STD-810H, Method 516.8, Procedure I, Operational, Half-Sine pulse, 50 g, 11 ms.
Drop	MIL-STD-810H, Method 516.8 - Procedure IV: Transit Drop. Non-operational, Free fall from 122 cm height, unpackaged.
ESD	- EN61000-4-2 level 4 - ISO 10605
EMC requirements	IEC 61326-1
Calibration	Compliant with ISO 17025. Factory calibration of equipment with voltage channels in our ISO/IEC 17025 accredited calibration laboratory provides formal recognition to competent laboratories and provides a guaranteed & validated calibration method for Siemens SCADAS systems. Siemens will present a full ISO 17025 compliant report according to the accredited published scope and with the official RvA (registration number K159) & ILAC labels.
Certifications	CE, FCC

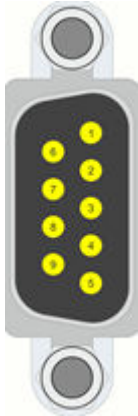
Connectors and Pinout

General

All connectors support at least 2500 mating cycles, unless specifically indicated.

Measurement

DB9

Unit product codes	Connector	Pin function
SCES-CN4	 DB9 ((Simcenter SCADAS Mobile/Lab CN4 compatible)	1.DC+ 2.CAN_L1 3.GND 4.CAN_L2 5.GND 6.N.C. 7.CAN_H1 8.CAN_H2 9.N.C. Shielding: Unit chassis ground

On-board Simcenter SCADAS Go Configuration / Recorder

General

License-free embedded software on the Simcenter SCADAS ES PNI and PNU units. If a Recorder is present in the stack, the application becomes Simcenter SCADAS Go Recorder.

Provides a multi-user parallel web user interface, accessible through any web browser, wired or wireless (PNU) connection.

Instrumentation

- Single channel setup
- Channel list (grid and card views)
- Persist settings on each connected unit
- Calculated channels setup
- Template management

Calibration & checks

- DC calibration
- Shunt calibration
- Offset balancing

- Verification checks

Monitoring

- Status info: health status, warnings and alarms
- Statistics: overall and instantaneous
- Time data
- Frequency data (FFT)
- Variety of customizable displays: digital, analog, strip chart, XY, 2D

Detailed info

See Simcenter SCADAS Go Configuration / Recorder Manual within the application.

Accessories

Delivered with Units

Product code	Product name	SCES-CN4
F-LMSCASNL-G*	Cable CAN 2xSUB-D, 1m (SAP# 80200037)	2

(*) Compatible with Simcenter SCADAS Mobile/Recorder/Lab modules.