

PRODUCT DATA SHEET

Signal Link · Signal Conditioner

Multi-Function · DIN-Rail Mount

OVERVIEW

PRODUCT · KEY SPECIFICATIONS



The **SIGNAL LINK** is a compact signal conditioner that snaps onto standard 35 mm DIN rail. It simultaneously converts a mV/V load cell signal into a standardized analog, digital and relay outputs for remote monitoring and machine control.

KEY FEATURES

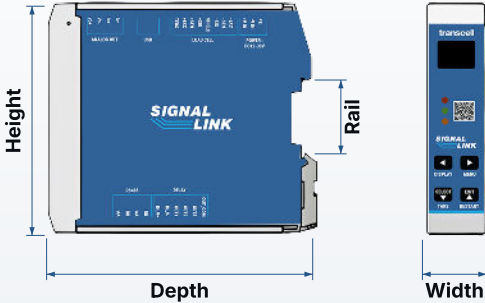
10 to 7200 Hz SAMPLING RATE	1,000,000 cts PER MV/V INTERNAL RESOLUTION
1 In · 3 Out DISCRETE I/O	5 v EXCITATION
5-Point LINEARIZATION · PER LOADING MODE	12-30 v DC SUPPLY · ≤ 4 W

INPUTS & OUTPUTS AT A GLANCE

SIGNAL CHAIN

STAGE	INTERFACE	CAPABILITY
Sensor Input	Load Cell / Junction Box	±4.5 mV/V · Up to 8 × 350 Ω cells · 4 or 6-wire sense
Analog Output	Voltage or Current	0-10 V, ±10 V, 4-20 mA, ±20 mA · user-scaled
Digital Comm	RS-485 + USB Type-C	Isolated half-duplex RS-485 Modbus-RTU · Daisy-chain to 32 nodes · VCP for PC setup & firmware
Discrete I/O	1 Input · 3 Relays	Opto-isolated trigger input · 3 × Form-A 5 A / 250 VAC / 30 VDC relay contacts

DIMENSIONS



DIMENSION	IN	MM
Height	3.9	100
Depth	4.6	116.7
Width	1.0	25
Rail	35 mm standard DIN	

Hook the top of the mounting clip over the rail, pivot the base until it clicks, and confirm a secure lock. Use end clips to prevent lateral movement.

SPECIFICATIONS

MEASUREMENT · COMMUNICATION · OUTPUT · CONTROL

MEASUREMENT PROCESSING

Input Signal Range	±4.5 mV/V
Sampling Rate	10 – 7200 Hz (sel.)
Internal Resolution	1,000,000 cts/mV/V
Excitation	5 V AC Excitation
SMA Filter	1, 2, 4, 8 samples
Dynamic Filter	32 / 48 / 64 samples
FIR Filter	Auto-on @ 10 & 20 Hz
Zeroing	Auto-zero · Tare · Track
Zero Tracking	0 – 0.002 mV/V

ANALOG OUTPUTS

Output Types	0-10 V · ±10 V · 4-20 mA · ±20 mA
Output Mapping	User-defined low / high force endpoints
Analog Resolution	0.0018% of FS
System Nonlinearity	±0.002% of FS
Noise Floor	±0.001% of FS
PLC Calibration Points	0 · 25 · 50 · 75 · 100%

CALIBRATION & UNITS

Calibration Modes	Live or Key-In
Units of Measure	lb · N · kN · g · kg · t
Positive Linearization	≤ 5 points
Negative Linearization	≤ 5 points
On-Screen Resolution	Up to 6 digits
Password Protection	Selectable

DIGITAL COMMUNICATION

Connection Types	RS-485 · USB-C
RS-485 Protocol	Modbus-RTU half-dup.
Network Nodes	Up to 32 daisy-chain
Digital Output Resolution	1,000,000 cts/mV/V
Nonlinearity, Digital	±0.001% of FS
USB Function	VCP · Firmware update
Data Field Length	16 / 32 bit

DISCRETE I/O

Inputs	1 opto-isolated
Input Drive Voltage	10 – 30 VDC
Input Max Current	12 mA
Relay Outputs	3 Form-A, N.O.
Max Switch Voltage	250 VAC / 30 VDC
Max Switch Current	5 A
Max Switch Power	150 W

PHYSICAL & POWER

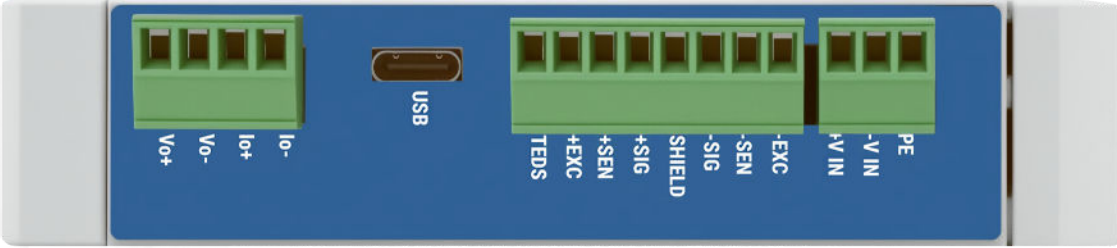
Enclosure	PA · UL 94 V-0
Protection Rating	IP20
Display	64×48 OLED + 3 LED
Power Supply	DC 12-30 V ±10%
Power Draw	≤ 4 W · 500 mA max
Dimensions	116.7 × 100 × 25 mm

Temperature ranges. Ambient operating 15 to 130 °F · Storage / operating –22 to 140 °F · Temperature-compensated 15 to 105 °F · Operating humidity 10–95% non-condensing (per IEC 60112). All accuracy figures referenced at 68 °F.

PORTS & CONNECTIONS

Detachable terminal blocks span the top and bottom faces of the enclosure. The USB-C port is the only fixed connector.

TOP FACE



ANALOG OUT

Vo+Vo-Io+Io-

Voltage (Vo) or current (Io) output to PLC / display.

USB

Type-C

PC config & firmware updates via VCP driver.

LOAD CELL

TEDS+EXC+SEN+SIGSHIELD-SIG-SEN-EXC

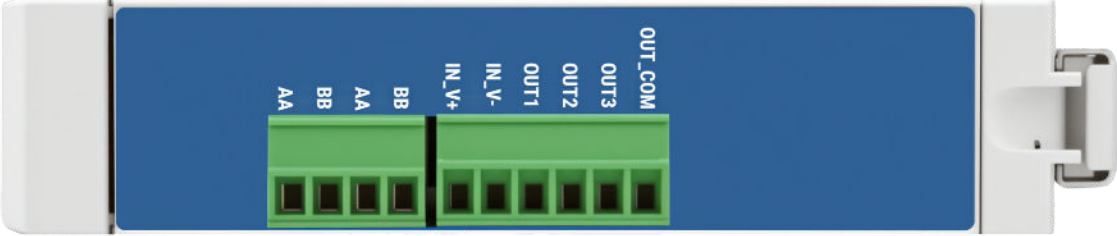
6-wire sense bridge input; 4-wire shorts SEN→EXC.

POWER

+VIN-VINPE

DC 12-30 V supply; PE to ground.

BOTTOM FACE



RS-485

AA BB AA BB

Half-duplex RS-485 Modbus-RTU. Two AA/BB pairs are paralleled for easy daisy-chain wiring; fit a 120 Ω terminator at each end node.

RELAY & TRIGGER

IN_V+IN_V-OUT1OUT2OUT3OUT_COM

IN_V± is the opto-isolated start trigger (10-30 VDC). OUT1-OUT3 are normally-open relay contacts sharing OUT_COM, which ties to supply + or -.

LOAD CELL TERMINAL	FUNCTION
+EXC / -EXC	Bridge excitation
+SEN / -SEN	Remote sense (6-wire); short to EXC for 4-wire
+SIG / -SIG	Load-cell signal return
SHIELD	Cable shield / ground
TEDS	Transducer electronic data sheet

I/O TERMINAL	FUNCTION
IN_V+ / IN_V-	Isolated start input · 10-30 VDC · 12 mA
OUT1	Relay 1
OUT2	Relay 2
OUT3	Relay 3
OUT_COM	Common return for OUT1-OUT3

Caution: Disconnect the power source before making any connections. Strip insulation 6-7 mm, seat each wire fully, and verify no bare strands bridge adjacent terminals. Route load-cell cable away from high-voltage / power wiring; use mV/V-rated shielded cable for maximum stability.

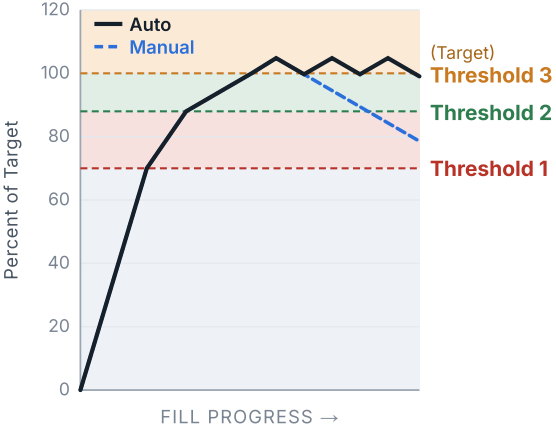
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RELAY CONTROL — OUTPUT MODES

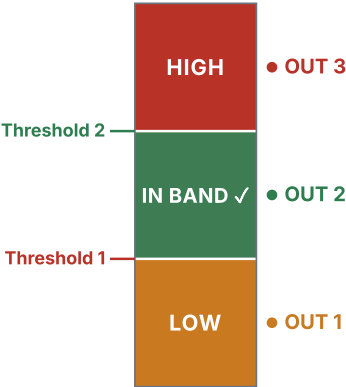
Each output (**OUT1-OUT3**) switches as the live weight crosses its set-point. User sets crossover thresholds during a given mode setup. The four logic modes below cover dosing, tolerance checking and grading.

AUTO / MANUAL FILL



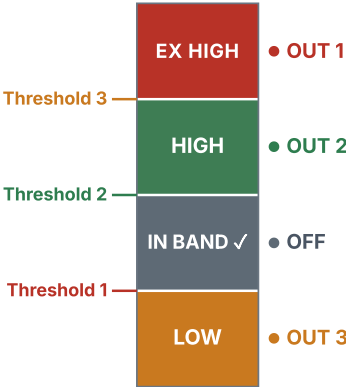
Filling releases OUT1, OUT2, then OUT3 as weight passes Point 1, 2 and 3. Auto (solid) is unlatched and re-energizes if the level drops; Manual (dashed) does not re-energize until input relay re-initializes the process.

PASS BAND



Low / in-band / high against two set-points; OUT2 confirms an accepted (in-band) weight.

CHECK WEIGHT



Four graded zones; all relays stay off only when the weight is in band.

FRONT PANEL & OPERATION

OLED · KEYPAD · ANNUNCIATORS

KEYPAD FUNCTIONS		DISPLAY ANNUNCIATORS		CONFIGURATION MENUS	
◀ Display	Menu left / long-press screen sleep	>0<	Center-of-zero	Measure	Sampling, filters, zero & tare behavior
▶ Menu	Menu right / long-press to enter config	G / N	Gross / Net weight mode	Cal Setup	Live / Key-In calibration & units
▼ Select	Down / long-press Save · Tare	lb kg g	Weight units (also kN, t)	V/mA Out	Analog type, scaling, PLC calibrate
▲ Exit	Up / long-press Exit menu	▲▲ / ~	Stable / in-motion	Dig Comm	USB & RS-485 / Modbus parameters
6-digit white OLED dot-matrix display with selectable decimal placement and count-by (1 / 2 / 5). Scan the front-panel QR code for manuals, wiring guides and calibration resources.				Relay IO	Fill / check-weight / pass-band logic
				System	ID, restore, mV/V cal, OLED test