

428XL Specifications

Central Unit

LCI-428/LCI-G	
LCI-428 : Field units management, up to 10,000 channels real time @ 2 ms. Up to 10 LCI-428 can be linked together to handle up to 100,000 channels real time @ 2 ms. LCI-G : Field units management, up to 100,000 channels real time @ 2 ms.	
Operating voltage	110-220 VAC, 50/60 Hz
Power consumption	6.7 W
Operating temperature	0 to +45°C
Storage temperature	-40° to +70°C
Dimensions (HxWxD)	2U 19" rackable, 86.1 x 483 x 420.7 mm (19 x 16.5 x 3.4 in.)
Weight	4.1 kg (9.0 lbs.)

Ground Equipment

FDU-428	
Functions	<ul style="list-style-type: none"> • Data transmission with CRC control • 24 bits A/D conversion • D/A conversion with programmable bit stream
Input impedance differential mode	20 kΩ // 77 nF
Input impedance common mode	105 kΩ
Full scale input levels @ G1600	1.6 V RMS
Full scale input levels @ G400	400 mV RMS
Offset	0 (digitally zeroed)
Crosstalk	> 130 dB
Low-cut filter	None
High-cut filter	0.8 FN (linear or minimum phase)
Stop band attenuation	> 120 dB (above Nyquist)
Sample rates	4, 2, 1, 0.5, 0.25 ms
Time standard	True synchronous system
Interval between FDUs	@ 8 Mbps: up to 110 m with ST+ cable, 90 m with WPSR cable @ 16 Mbps: up to 90 m with ST+ cable, 75 m with WPSR cable
Power consumption	120 mW @ 8 Mbps, 132 mW @ 16 Mbps
Noise (3-200Hz) @ G1600	450 nV RMS
Noise (3-200Hz) @ G400	145 nV RMS
Instant dynamic range	130 dB
System dynamic range	140 dB
Distortion	-110 dB
Gain accuracy	< 0.1%
Phase accuracy	20 μs
CMRR	110 dB
Dimensions (HxWxD)	82.5 x 71.4 x 194 mm (3.2 x 2.8 x 7.6 in.)
Weight	0.35 kg (0.77 lbs.) with ST+ cable
Operating & storage temperatures	-40° to +70°C
Water depth	15 m (for WPSR) 1 m (for ST+)
Instrument tests	noise, distortion, phase, gain, CMRR, crosstalk
Fields tests	resistance, tilt, leakage, noise, CMRR

DSU3-428 / DSU3BV-428	
Functions	<ul style="list-style-type: none"> • Acceleration measurement and data transmission with CRC control • 24 bits digital acquisition
Full scale	5 m/s ²
Tilt max value	± 180°
Noise (10-200 Hz)	0.4 μm/s ² /√Hz
System dynamic range	120 dB @ 4 ms
Sampling rate	4, 2, 1, 0.5, 0.25 ms
Bandwidth	0 - 800 Hz (up to 1,600 Hz with degraded specifications)
Distortion	-90 dB
Amplitude calibration accuracy	± 0.25%
Orthogonality calibration accuracy	± 0.25°
Power consumption	285 mW @ 8 Mbps, 300 mW @ 16 Mbps
Static sensor tests	Tilt, gravity, noise
Dynamic sensor tests	Distortion, gain, phase
Dimensions DSU3-428 (HxWxD) DSU3BV-428 (HxØ)	159.2 x 70 x 194 mm (6.2 x 2.7 x 7.6 in.) 243 x 62 mm (9.6 x 2.4 in.)
Weight DSU3-428 DSU3BV-428	0.43 kg (0.9 lbs) 1.5 kg (3.3 lbs)
Operating Temperatures	-40° to 70°C
Storage temperatures	-40° to +70°C
Water depth DSU3-428 DSU3BV-428	15 m (WPSR) ; 1 m (ST+) 15 m

DSU1-428	
Functions	<ul style="list-style-type: none"> • Acceleration measurement and data transmission with CRC control • 24 bits digital acquisition
Full scale	5 m/s ²
Noise (10-200 Hz)	0.4 μm/s ² /√Hz
System dynamic range	120 dB @ 4 ms
Sampling rate	4, 2, 1, 0.5, 0.25 ms
Bandwidth	0 - 800 Hz (up to 1,600 Hz with degraded specifications)
Distortion	-90 dB
Amplitude calibration accuracy	± 0.25%
Power consumption	160 mW @ 8 Mbps, 170 mW @ 16 Mbps
Static sensor tests	Tilt, noise
Dynamic, sensor tests	Distortion, gain, phase
Weight	0.375 kg (0.827 lbs)
Operating Temperatures	-40° to 70°C

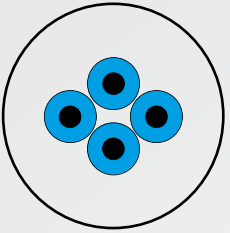
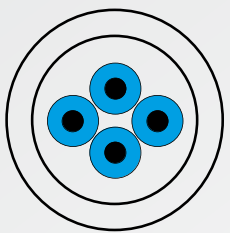
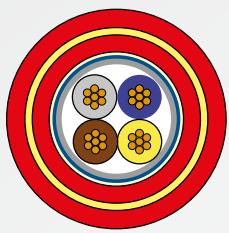
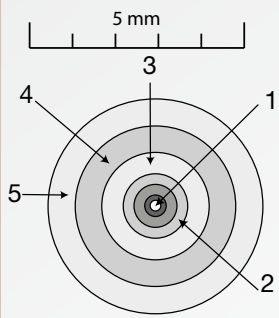
LAUL-428

Functions	<ul style="list-style-type: none"> • FDUs, DSUs and line management, data transmission with error recovery and temporary storage • 50 V line power supply • Tests 	
Tests capabilities	<ul style="list-style-type: none"> • Power supply • Data transmission • Leakage 	
Operating power voltage	10.5 to 15 VDC, 2 battery connectors, to allow uninterrupted operation during battery replacement	
Power consumption	2.8 W (idle: 320 mW)	
	Maximum number of FDUs/DSUs between LAUs (@ 2 ms) :	
Cable length between FDUs/DSUs	8 Mbps	16 Mbps
5 m	60/20	102/40
10 m	60/20	90/40
15 m	60/20	81/40
20 m	60/20	74/40
25 m	60/20	68/40
30 m	60/20	64/40
35 m	60/20	60/40
40 m	59/20	57/40
45 m	56/20	55/39
50 m	54/20	52/37
55 m	52/20	50/36
60 m	50/20	48/34
70 m	47/20	45/32
80 m	44/20	43/30
90 m	42/20	40/29
100 m	38/20	NA/NA
110 m	37/20	NA/NA
Line data rate	1000 ch. @ 2 ms @ 8 Mbps / 2000 ch. @ 2 ms @ 16 Mbps	
Memory	30 MB local buffer for non-real time mode transmission	
Material	Aluminium	
Dimensions (HxWxD)	108 x 93 x 224 mm (4.2 x 3.6 x 8.8 in.)	
Weight	2.4 kg (5.3 lbs.)	
Operating temperatures	-40° to +70°C	
Storage temperatures	-40° to +70°C	
Water depth	15 m	

LAUX-428/LAUX-G

Functions	<ul style="list-style-type: none"> • Ethernet-TCP/IP data transmission and routing (transverse) with error recovery and temporary storage • 50 V line power supply • Tests
Tests capabilities	<ul style="list-style-type: none"> • Power supply • Data transmission • Field tests (resistance, tilt, leakage, noise, CMRR) • Instrument tests (noise, distortion, phase, gain, CMRR, crosstalk)
Operating power voltage	10.5 to 15 VDC, 2 battery connectors to allow uninterrupted operation during battery replacement
Power consumption	
LAUX-428	6.7 W (idle 1 W)
LAUX-G	6.9 W
TREP-428	1.3 W
TFOI-428	2.2 W
TFOI-G	2.8 W
Interval between LAUX on transverse:	
Copper wire	up to 6 x 125 m with TREP-428 repeaters and SRHRF cable
Fiber optics	up to 10 km (one piece fiber) with TFOI-428 and TFOI-G interfaces
Transverse data rate	10,000 ch. @ 2 ms with LAUX-428 100,000 ch. @ 2 ms with LAUX-G
Memory	3 MB local buffer for non-real time mode transmission
Material	Aluminium
Dimensions (HxWxD)	137 x 312 x 242 mm (5.4 x 12.3 x 9.5 in.)
Weight	5.5 kg (12.1 lbs.)
Operating temperatures	-40° to +70°C
Storage temperatures	-40° to +70°C
Water depth	15 m (also for TREP-428, TFOI-428 and TFOI-G)

428XL CABLES

APPLICATION	Link		Transverse	
	TYPE	Light	Strengthened	Copper
Name	ST+	WPSR	SRHRF	FIBER 428
Field conditions	Dry	Wet	Wet	Wet
Conductors arrangement	1 quad	1 quad	1 quad	1 fiber
Conductor type	stranded	stranded	stranded	NA
Screen	no	no	Foil Alu/PE + Copper Braid CuEt	no
Water blocked	no	yes	yes	no
Max water depth	1 m	15 m	15 m	15 m
Diameter	6.5 mm	9.5 mm	10 mm	7.2 mm
Tensile strength (nude cable)	100 daN	300 daN	300 daN	200 daN
Tensile strength (with connectors)	70 daN	250 daN	250 daN	170 daN
Stress Member	aramid in line	aramid braid	aramid braid	aramid in line
Weight	47 kg/km	95 kg/km	100 kg/km	45 kg/km
Double jacket	no	yes	yes	yes
Operating temperature	-45 +70°C	-40 +70°C	-40+70°C	-40+70°C
Storage temperature	-45 +70°C	-55 +85°C	-55 +85°C	-40 +70°C
Max. length in Line (8/16 Mbps)	110 m / 90 m	90/75 m	NA	NA
Max. length in Transverse (100 Mbps)	NA	NA	125 m	5 km in line
				<p>1 - Optical fibre 4 - Aramid fibre 2 - Aramid fibre 5 - Outer jacket in PU 3 - Tube</p> 

Note: Sercel reserves the right to change its specifications without prior notice.
All specifications are typical at 25°C

Sercel - France

16 rue de Bel Air
B.P. 30439 - 44474 CARQUEFOU Cedex
Téléphone: (33) 2 40 30 11 81
E-mail: sales.nantes@sercel.com
SAS au capital de 2 000 000 €
Siège Social: 16 rue de Bel Air - 44470 CARQUEFOU
378.040.497 R.C.S. Nantes Code APE 2651B

Sercel Inc. - U.S.A.

17200 Park Row
Houston, Texas 77084
Telephone: (1) 281 492 6688
E-mail: sales.houston@sercel.com

www.sercel.com
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Ahead of the CurveSM