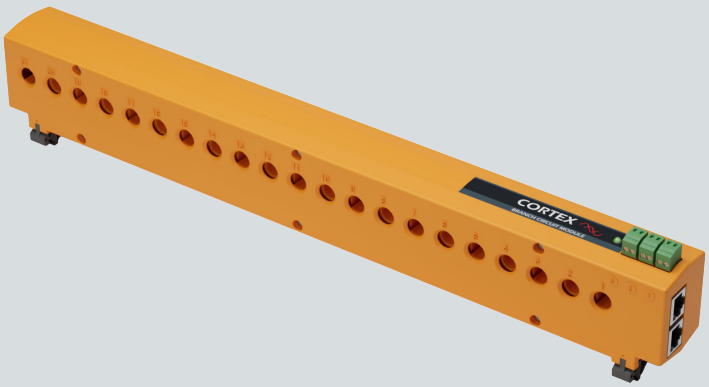
CORTEX SYSTEMS LLC

TECHNICAL OVERVIEW



SOLID CORE CT STRIP

CS-SERIES

TRULY INTELLIGENT MONITORING

HIGH RESOLUTION DATA

The CORTEX CS series is a next generation branch circuit monitoring solution featuring lightening fast sampling, 0.2 class accuracy and true per circuit waveform capture.

RUGGEDIZED CASE

The ultra tough enclosure resists damage from cable strain and harsh conditions experienced during installation.

EASY TO INSTALL / EASY TO USE:

A user friendly graphical layout tool simplifies configuration along with a data displayed according to the panel board layout. The register reveal feature displays registers dynamically according to circuit position reducing integration complexity.

SCIENTIFIC GRADE CALIBRATION

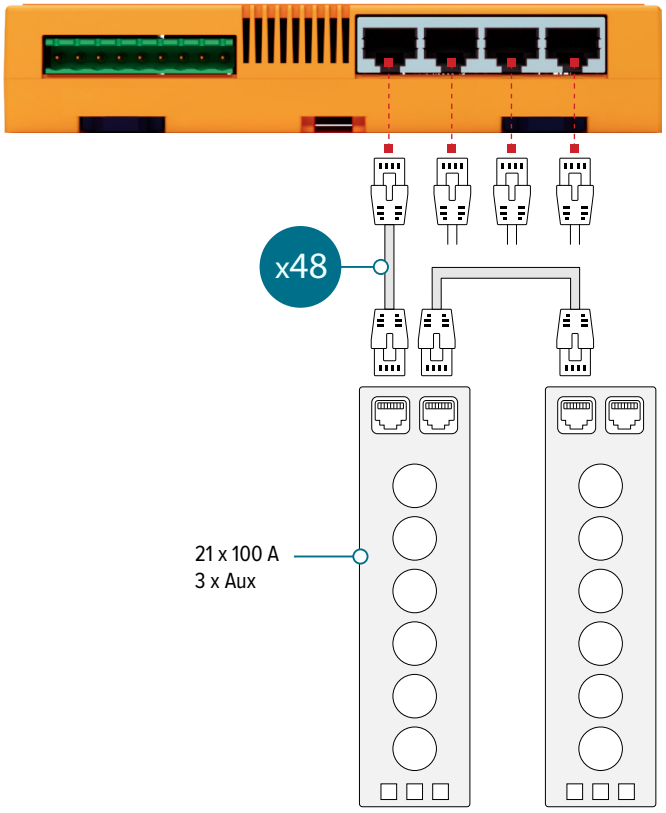
Every circuit is checked against a precision calibrated source from 0-100 A at 0.5 leading to lagging power factor to ensure accuracy compliance.

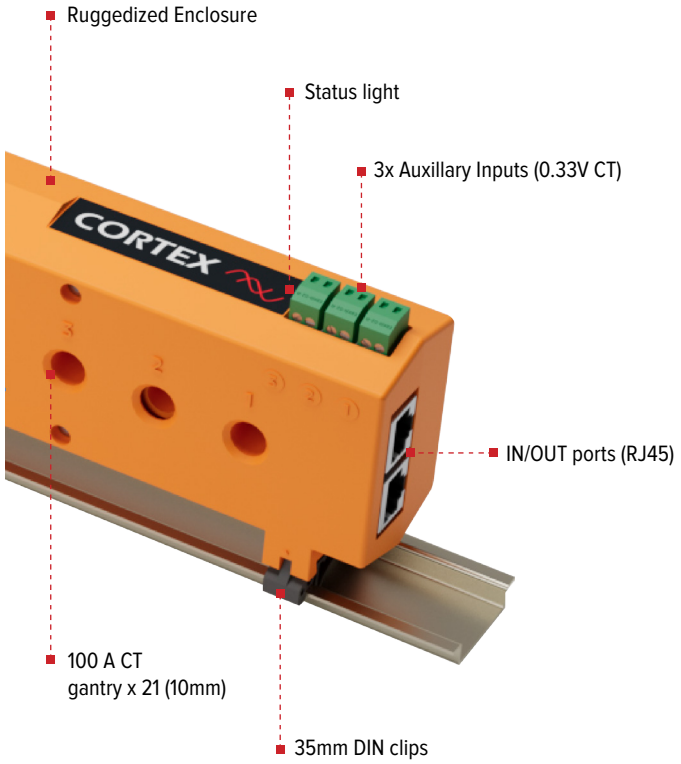
FEATURES:

- Ultra precise 0.2% accuracy
- High-resolution power quality sampling per channel
- User friendly graphical configuration
- Ruggedized enclosure protects CTs from damage
- CBEMA/ITIC event logging
- Waveform capture per circuit
- Detailed power quality analytics
- Daisy chain connections avoid excess wiring
- 21 x 100 A circuits + 3x auxiliary inputs per strip
- A single Cortex monitor will support 8 CT strips (192 channels) to monitor up to four x 42 pole panels + mains or two 48 pole panels.
- Virtual meter creation accurately combines circuits to report total three phase + neutral data.
- Virtual circuit mapping can calculate total panel board consumption per phase and neutral eliminating the need for costly panel main CTs.

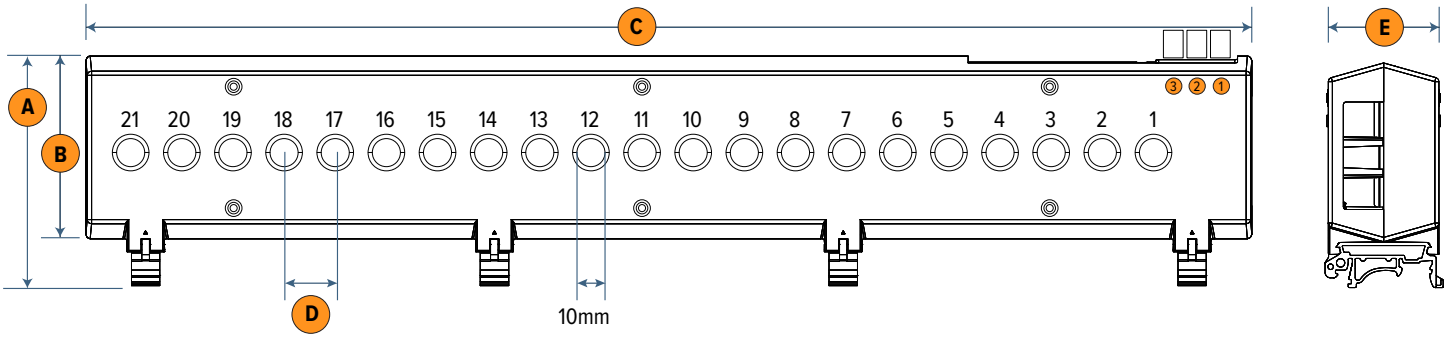
CONNECTIVITY

- CT strips are connected using standard Ethernet cable via a robust proprietary protocol.
- Each strip has 21 x 100 A x 10mm current transformers along with three auxillary CT inputs.
- A single Cortex PQM monitor can support up to eight CT strips for a total of 192 channels.





MECHANICAL DETAILS



PART NUMBER	PITCH	A	B	C	D	E
CS100-21-00	1.0"	3.05" (77.37mm)	2.41" (59.95mm)	21.98" (558.2mm)	1.0" (25.4mm)	1.57" (39.8mm)
CS075-21-00	0.75"	3.18" (80.88mm)	2.53" (64.36mm)	16.88" (429.0mm)	0.75" (19.1mm)	1.57" (39.8mm)
CS018-21-00	18mm	3.05" (77.37mm)	2.41" (59.95mm)	16.13"(409.57mm)	0.71" (18.00mm)	1.57" (39.8mm)

TECHNICAL SPECIFICATIONS

Regulatory	
Agency approvals	cUL 61010 Listed / IEC/EN61010-1, CE
Installation Category	Cat III, pollution degree 2
Conducted and radiated emissions	FCC part 15 Class A, EN55011/EN61000-6-4 Class A
Conducted and radiated immunity	EN61000-6-2 and EN61326-1
RoHS	Compliant
UKCA	Compliant

Environmental	
Temperature	Operating: -0 °C (14 °F) to +80 °C (XX °F) Non-Operating: -25 °C (-13 °F) to +80 °C (158 °F)
Relative humidity	5 to 95% at 25 °C (77 °F), non-condensing
Operating elevation	2000m with no thermal derating
Pollution degree	2
Enclosure type	NEMA 1 / IP20

Measurement	
Current channels supported	192 (8 x CT strips per monitor)
Current channel	21 x 100 A CT + 3 x Auxiliary CT
Auxiliary current transformer type	0.33Vout
Minimum current	0.2A
Sampling Frequency	40 kHz
Accuracy	0.2 class native
Monitored Parameters (per channel)	Current, Max Current, kW, kVA, Power Factor, kVAR, THDI, THDV, PF
Accuracy Standards	IEC62053-class 0.2 / ANSI C12.20 class 0.2

Installation	
Interface ports	RJ45 x 2 (CAT 6A recommended)
Mounting	35 mm DIN rail
Supply power	Integrated into communication cable
Voltage range	480 VAC maximum (50/60 Hz)
Line Voltage	No contact with line voltage
Auxiliary CT connection	3.5mm screw terminal header

ORDERING INFORMATION

- A single Cortex PQM monitor can support up to eight CT strips for a total of 192 channels.
- Each strip has 21 x 100 A x 10mm current transformers along with three auxiliary CT ports.
- Up to two strips may be daisy chained to each of the four flex ports using standard Ethernet cable.

CT Pitch	Part Number	Description
1.0"	CS100-21-00	Solid Core CT, 1.0" pitch x 21 CT w/ 3 auxiliary inputs
0.75"	CS075-21-00	Solid Core CT, 0.75" pitch x 21 CT w/ 3 auxiliary inputs
18mm	CS018-21-00	Solid Core CT, 18mm pitch x 21 CT w/ 3 auxiliary inputs