



DATASHEET

NETWORK CONTROL UNIT

NCS-500



**LoRaWAN
Communication System**



**Multilevel Wind
Protection**



**Battery with up to 3
hours autonomy**



**Capability to control up to
500 devices**

VERSION HISTORY

VERSION	PUBLICATION DATE
v1.2408	14/08/2024
v1.2502	19/02/2025

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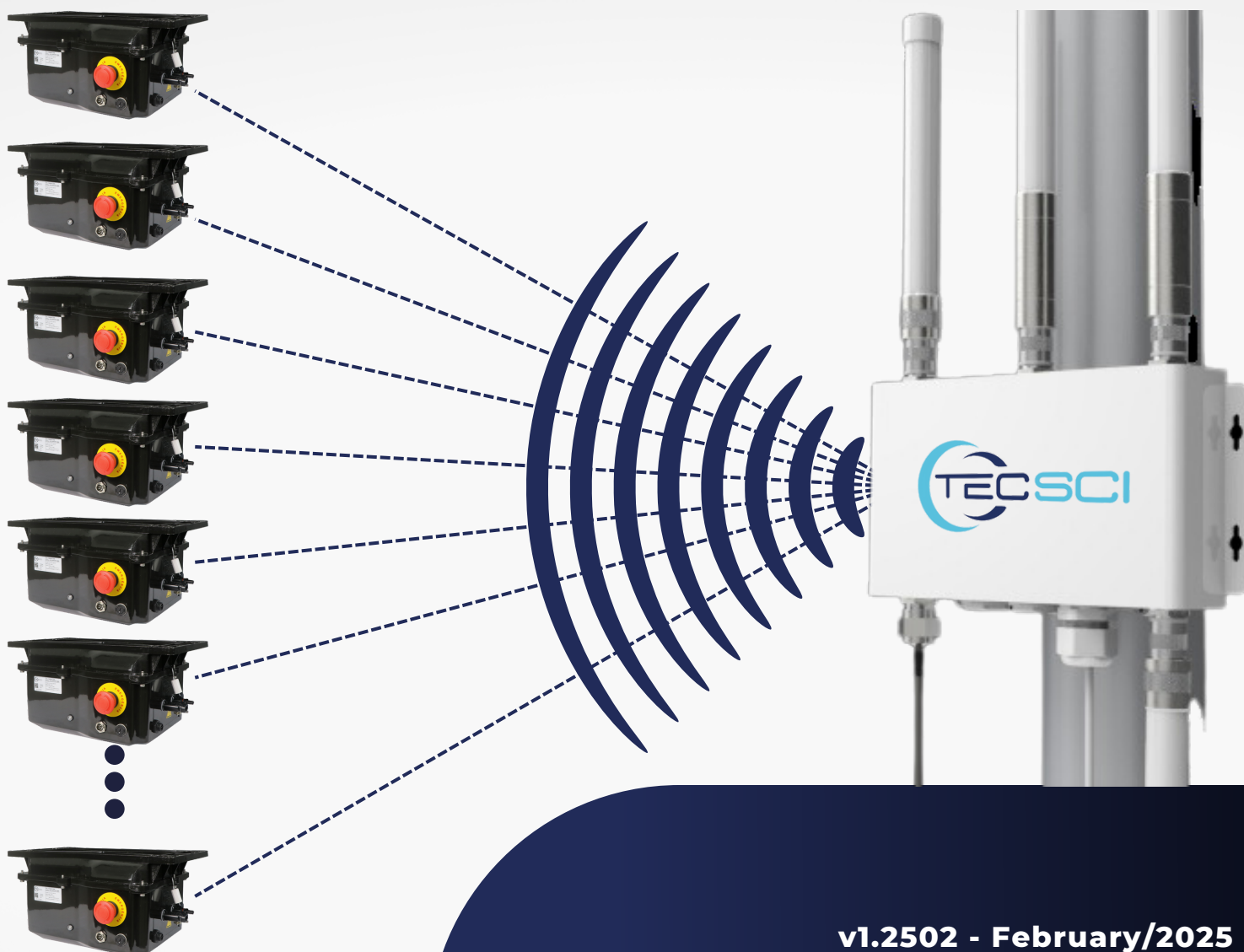
This equipment is not entitled to protection against harmful interference and may cause interference in duly authorized systems.

This product is not intended for use in domestic environments. It may cause electromagnetic interference requiring the user to take appropriate measures to minimize such interference.

MAIN INFORMATION

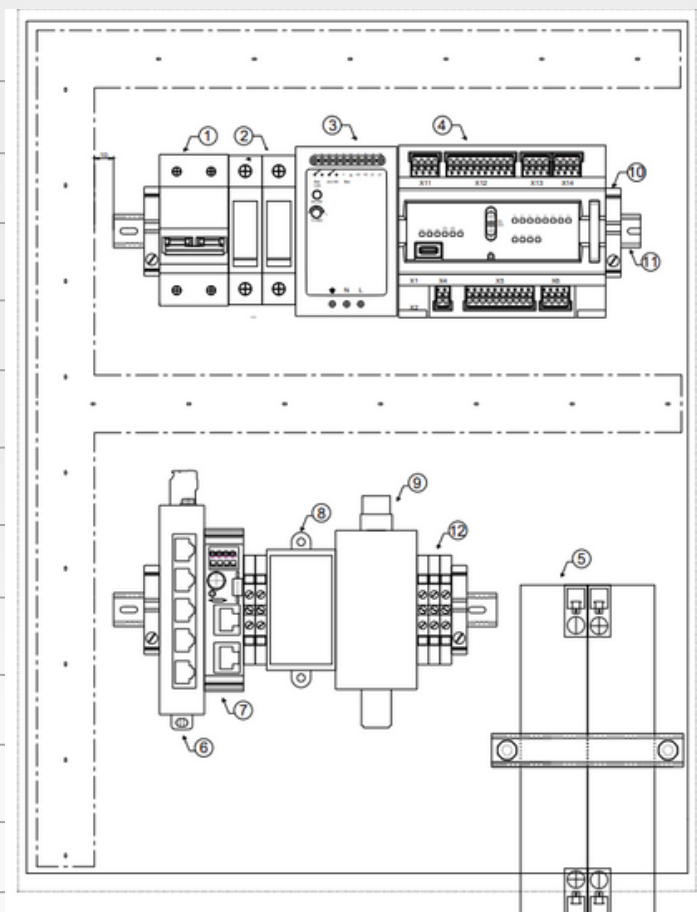
Communication	LoRaWAN
Communication topology	Star Network
TCUs/NCU	up to 500 trackers
Maximum range	up to 5.000m
Wind protection	Multi-level

Controls up to 500 trackers



INTERNAL COMPONENTS

- (1) Circuit Breaker
- (2) Surge Protection Device (SDP)
- (3) Power Supply / UPS
- (4) Compact Controller
- (5) Battery
- (6) Switch
- (7) PoE Injector
- (8) DC/DC Converter
- (9) Anemometer Circuit
- (10) DIN Rail Lock
- (11) DIN Rail
- (12) Terminal Block



MECHANICAL CHARACTERISTICS

• NCU

Material	ABS (Acrylonitrile Butadiene Styrene)
Weight	8 kg
Dimensions (HxWxD)	500x400x300 mm
Internal volume	33.172 cm ³
Hinges	Metallic
Mounting system	4 fixing holes M6
Cable glands	3 PG16 cable glands
Pressure Relief Vent	1x filter M12 hole
Protections:	
- Ingress protection	IP65 (NBR IEC 60529)
- Heat and fire resistance	650°C (NBR IEC 60695)
- External mechanical impacts	IK08 (NBR IEC 62262)
- Weather resistance	-15°C/60°C (ISO 4892-2)
- UV protection	(ISO 4892-2)
- Electrical shock protection	Class II (NBR IEC 64140)

MECHANICAL CHARACTERISTICS

• GATEWAY

Material	Aluminum
Weight	1,3 kg
Dimensions (HxWxD)	121x224x42 mm
Mounting System	4 fixing holes M4
Protections:	
- Ingress protection (solids & liquids)	IP65
- Operating temperature	-30°C to +55°C
- Operating humidity	0% to 95%

• NCU



• GATEWAY



ELECTRICAL CHARACTERISTICS

Power Supply	AC Input
- Input Voltage	100-220 VAC
- Input Current	2.0 A
- Nominal Power	100 W
Secondary Power Supply	Backup battery
- Quantity	2x 12V
- Type	Valve-Regulated Lead-Acid (VRLA)
- Dimensions (HxWxD)	179x35x66 mm
- Weight	0,70 kg
- Nominal Capacity	2,3 Ah
- Autonomy	up to 3 hours
- Connection	Faston

ELECTRICAL CHARACTERISTICS

Circuit Breaker

- Poles	2
- Curve	C curve
- Maximum operating voltage	240 VAC
- Insulation voltage	500 VAC
- Rated current	20 A
- Breaking capacity	3 kA

Surge Protection Device (SPD)

- Poles	2
- Maximum Continuous Operating Voltage (U_c)	275 VAC
- Nominal operating voltage	240 VAC
- Nominal discharge current (I_n)	10 kA
- Maximum discharge current (I_{max})	20 kA
- Reference voltage (U_p)	430 V
- Protection level	1,2 kV

COMMUNICATION CHARACTERISTICS

Wireless Communication	LoRaWAN
Topology	Star Network
Maximum number of TCUs	up to 500 trackers
Communication band	AU915 (915-928 MHz)
Antenna	
- Type	Monopole
- Radiation pattern	Omnidirectional
- Gain	5 dBi
Range	up to 5.000m

COMMUNICATION CHARACTERISTICS

NCU Scan	15s
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Additional features	Backtracking
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Multi-level wind protection

Web monitoring

Commissioning	Web interface
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Mobile app

Monitoring	Local monitoring
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Remote monitoring (Optional)

PROTECTION CHARACTERISTICS

Signal	4-20mA
Output voltage	24 VDC
Measurements	Wind speed
Reading cycle	200 ms
Sensor type	Cup anemometer
Cable Length	up to 25 m

Safety for tracker structure against wind





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