CTS175 TECHNICAL DATA SHEET

NAVTECH **RADAR**

CTS175-X/CTS175-X-P

Region
Europe and Australia

Full range
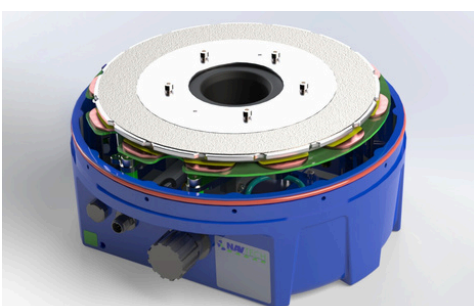350m

Field of view
360°

All conditions
In poor visibility

NO MAINTENANCE

Each ClearWay radar dish rotates at 4Hz inside the enclosure, meaning millions of rotations throughout its 10-year lifecycle. All radars incorporate ultra-reliable and zero maintenance direct-drive motor units, giving service-free operation for each device whilst installed at the roadside.

EU and UKCA Marked
ACMA Marked
Patented

ClearWay™ for Tunnels

360° radar-based automatic incident detection

Navtech's tunnel safety solution, ClearWay, provides comprehensive AID in all tunnel lighting conditions, with automatic camera control.

A networked system of 360° scanning radar provide portal to portal coverage and detect incidents in seconds. Powerful software raises incident alerts and keeps false alarms to a minimum.

Our tunnel solution uses Navtech's CTS175 radar with an indicative detection range of 150m radius, it means radar spacing up to every 300m. Detected incidents include stopped, slow and queuing vehicles, wrong-way driver, debris and pedestrian. ClearWay integrates with tunnel SCADA, VMS and camera systems, supporting efficient incident management.

TECHNICAL SPECIFICATIONS - CTS175

SPACING	FREQUENCY	UPDATE RATE
Up to 300m	76-77 GHz	4Hz

DIMENSIONS

Measurements	H387mm x D249mm
Weight	6KG

RADAR CHARACTERISTICS

Field of view	360°
Measurement rate	400 per rotation
Radius	175m
Full range (diameter)	350m
Range resolution	17.5cm

Beam shape

Horizontal	1.8°
Vertical	1.8°
Azimuth sampling	0.9°

CONNECTION

Connectors

Power	IP67 connector
Ethernet	IP67 connector - RJ45 CAT5e - 1 Gbps ethernet
Earth	M5 thread
Pressurisation valve	Yes

Network

Speed	100/1000Mbps (configurable)
Bandwidth	<0.5Mbps per radar in normal operation ~38Mbps viewing full disc raw data (for commissioning only)

Direct power variant

Voltage input	24V DC
Tolerance	21.6V to 26.4V
Consumption	24W

	PoE+ variant
Voltage input	36V to 57V
Tolerance	-0.3 to 60V
1ms surge	-0.6 to 80V (surge protection on the PoE line is recommended)
Consumption	24W

ENVIRONMENT

Operating Temperature	-20ºC to +60ºC
Enclosure	UL50/50E
Weather	Fully functional in wind, rain, snow, fog, ice, humidity 0-100% condensing
Visibility	Full performance through fog and smoke
IP rating	IP67
Saline	BS EN 60068-2-52:1996 Test Kb Severity 3
Shock and vibration	BS 7987 Clause 11, Class AJ2 BS EN 60068-2-64 Test Fh, Class AL2 BS EN 60068-2-27 2009, Test Ea BS EN 60068-2-31, Procedure 1

ELECTRICAL AND RADIO

Radar frequency	76-77 GHz
EMC Directive	2014/30/EU
Radio Equipment Directive	2014/53/EU
Low Voltage Directive	2014/35/EU

SOFTWARE

Protocols	TCP/IP, UDP, IPv4, HTTP, HTTPS, TLS1.2, SSH
Interface	Vertex via web browser
Authenticated access	Yes
Signed software	Yes - SHA512

SECURITY

Encrytion library	Botan
Authentication	Yes (password change or reset through admin account)

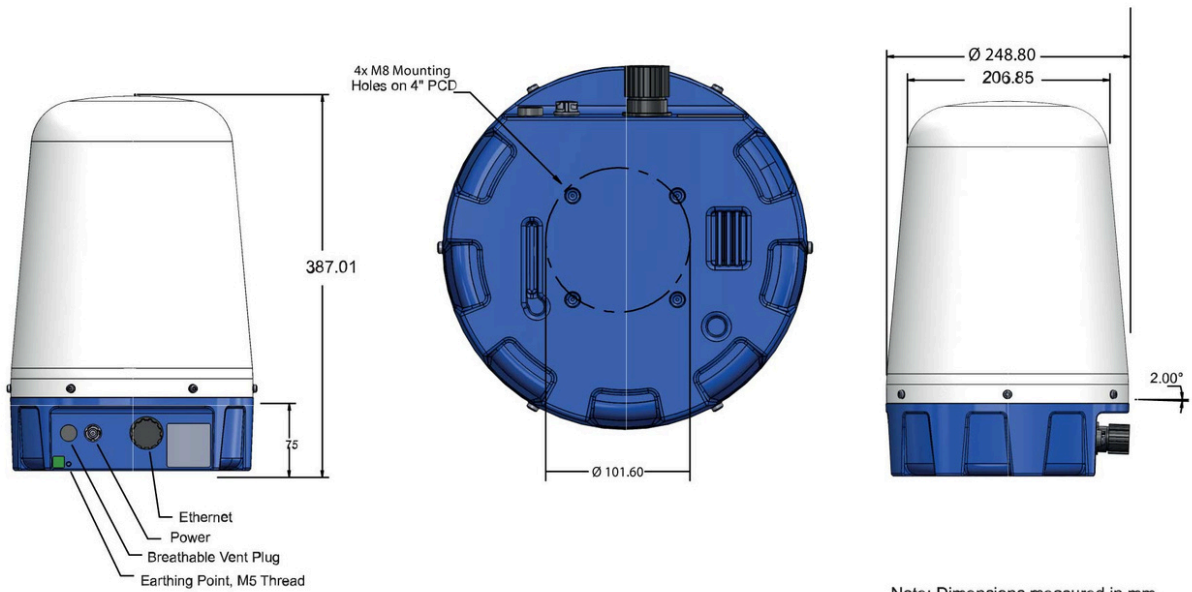|	
Account management	Password update only (3 inbuilt accounts)
Firewall / Access Control	Yes
SSH	Yes
Secure mode	Yes (closes port 80, only allows SSH with secure key, no UDP multicast)

ACCREDITATIONS AND COMPLIANCE

Compliance	CE, UKCA, ACMA Marked

PATENTS

Patent	Patent No. GB 2 518 344

DIMENSIONS

4x M8 Mounting Holes on 4" PCD

387.01

75

— Ethernet
— Power
— Breathable Vent Plug
— Earthing Point, M5 Thread

Ø 101.60

Ø 248.80
206.85

2.00°

Note: Dimensions measured in mm.

Navtech complies with the following ISO standards

ISO 9001:2015 Quality   ISO 45001 Health and Safety
ISO 27001 Information Security   ISO 14001 Environmental
ISO 20000 IT Service Management

TÜV NORD
TÜV UK Ltd.
ISO 9001

UKAS
MANAGEMENT
SYSTEMS
0065

Navtech Radar

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NAVTECH
R A D A R

Safety is everything.

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