TTConnect Cyber Wave

Description

TTConnect Cyber Wave is designed to connect your vehicle to your preferred Cloud Service in the easiest and most robust way. The device provides standard in-vehicle interfaces, such as Ethernet and CAN, in addition to its wireless and cellular interfaces. With its broad range of LTE bands, TTConnect Cyber Wave is a truly worldwide deployable device. From simple machine data monitoring to CAN bus logging or more advanced use cases, like predictive maintenance, the gateway provides enough resources to fulfil all your telematics needs.

TTConnect Cyber Wave fulfils all Cybersecurity requirements acc. to the Radio Equipment Directive (RED) cybersecurity requirements. The unit is equipped with a Host CPU with boot and device tree integrity and authenticity check at every startup and a dedicated internal cryptographic accelerator.

Specifications

Unit dimensions	176 x 220 x 46 mm
Weight	730g
Operating Temperature	-40 to +85°C
Supply Voltage	6 to 32V
Peak Voltage	36 V_{max}
Standby Current	3 mA_{max}
Operating Current	1,3 A_{max}

Standards

Certifications	EU: CE, UN ECE R10 UK: UKCA US: FCC, PTCRB Canada: IC Australia/NZ: ACMA Brasil: ANATEL Chile: SUBTEL Japan: TELEC & MIC Mexico: IFETEL South Africa: ICASA Thailand: NBTC UAE: TRA (Please consult TTControl for the full list)
ESD / EMC	ISO 13766, CISPR25, ISO11452-2/-4, ISO11452-4
Electrical	ISO 16750-2 ISO7637-2
Mechanical	IEC60068-2-64 IEC60068-2-27 Ea ISO16750-3 Free fall
Ingress Protection	IP67 / IP 69K
Climatic	IEC60068-2 -1 Ae & -2 BeEN 60068-2-1, -14, -78
Corrosive	IEC60068-2 -11 ISO 16750-5:2010
Vibration, Shock	IEC 60068-2-64, -27 Ea ISO16750-3 Free fall
Environmental	RoHS, REACh
Radio Emission Directive	RED 2014/53 incl. EU 2022/30 (Cybersecurity)

System Components

→ Freescale i.MX6S application processor 32bit Cortex A9 @ 800MHz
→ 16 Gb flash; 1 GB RAM
→ Separate core for vehicle communications
→ Internal temperature sensors for ambient and CPU temperature
→ 4 Power Modes and Power Management Core
→ Accelerometer/gyroscope
→ Real-time clock
→ GNSS: GPS, Glonass, Galileo, Beidou
→ Internal Li-Ion 500mAh Battery Pack
→ Linux OS

Interfaces

→ 1 x 10/100Base-TX Ethernet
→ 2 x CAN 2.0B (1 x isolated / ISOBUS compliant)
→ 1 x LIN
→ 1 x 1-wire
→ 1x USB 2.0 and OTG
→ 802.11b/g/n/ac WiFi Client / AP / DIRECT
→ Bluetooth 4.1 and Low Energy
→ 1 x RS 232
→ Physical SIM card interface
→ Internal or external antenna possible
→ 4G LTE Cat4 150Mbps down / 50Mbps up:
  → FDD-Band (1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66)
  → TDD bands (38, 40, 41)
→ 3G UMTS:
  → FDD-Band (1,2,3,4,5,6,8,19)
→ 2G GSM/GPRS/EDGE:
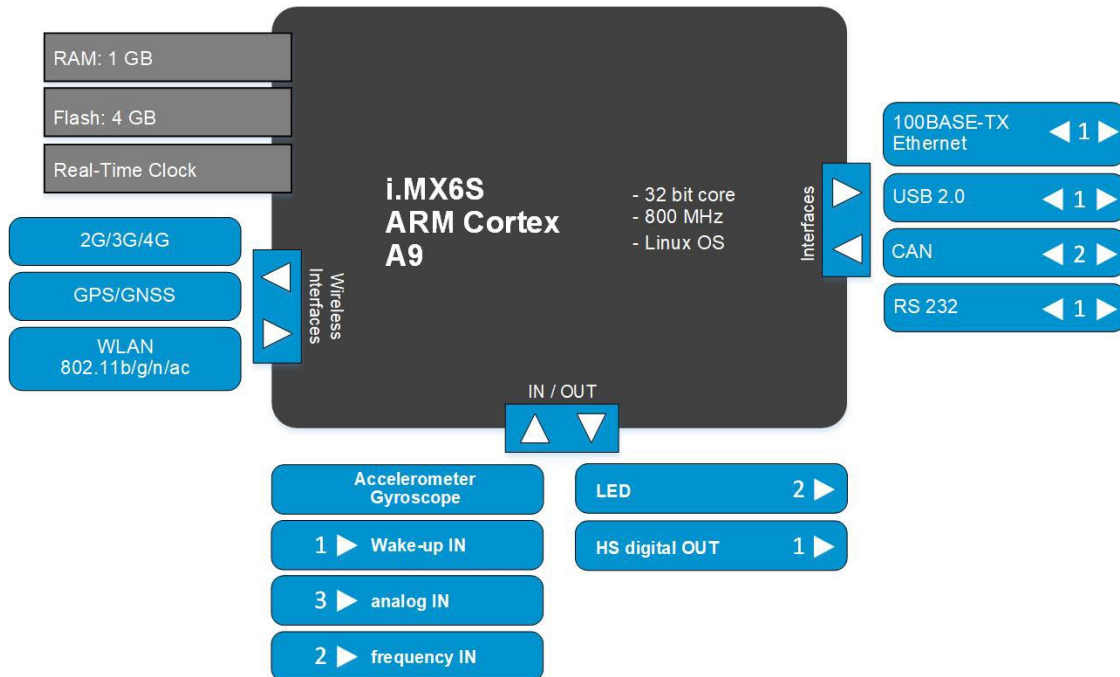 → 850/900/1800/1900 MHz

Inputs and outputs

→ 3 analog inputs
→ 2 frequency inputs
→ 1 digital output HSD
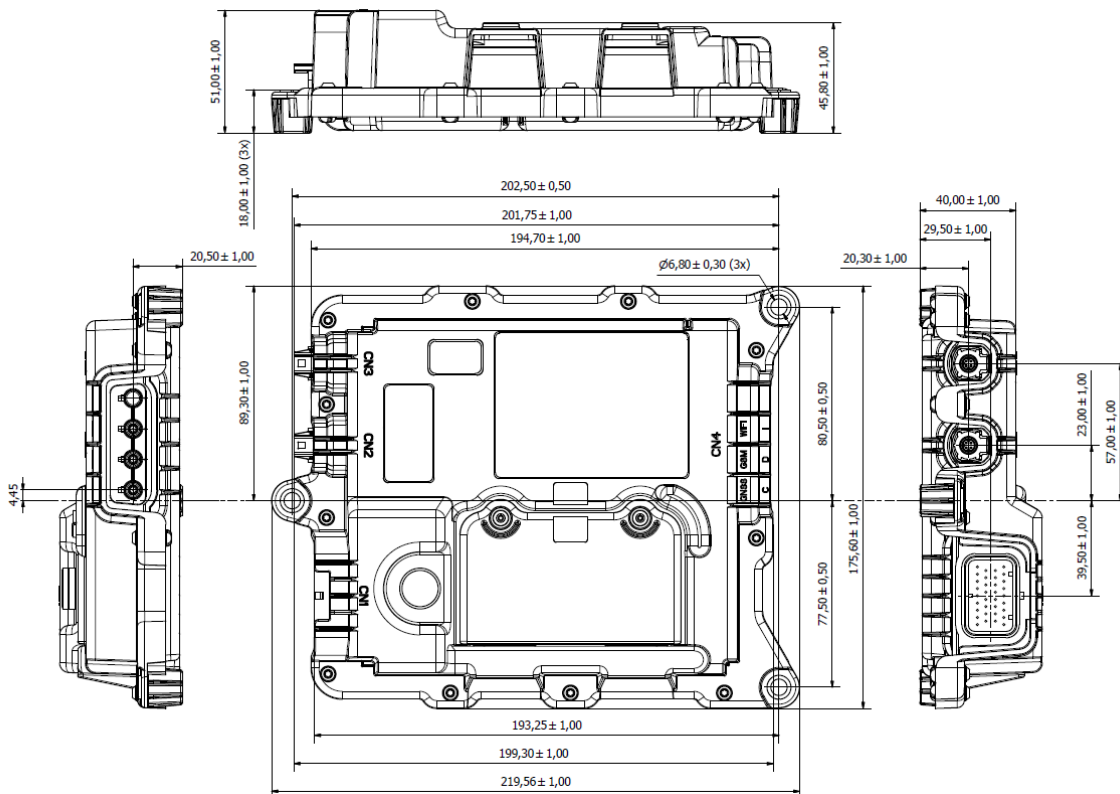→ 1 digital high side input with wake-up functionality

Reverse polarity protection and protection of all external interfaces against short circuit to GND and BAT+.

Available with the software platform MATCH by HYDAC Software.

Block Diagram

i.MX6S ARM Cortex A9
- 32 bit core
- 800 MHz
- Linux OS

Memory/Clock:
- RAM: 1 GB
- Flash: 4 GB
- Real-Time Clock

Wireless Interfaces:
- 2G/3G/4G
- GPS/GNSS
- WLAN 802.11b/g/n/ac

Interfaces:
- 100BASE-TX Ethernet — 1
- USB 2.0 — 1
- CAN — 2
- RS 232 — 1

IN / OUT:
- Accelerometer Gyroscope
- 1 Wake-up IN
- 3 analog IN
- 2 frequency IN
- LED 2
- HS digital OUT 1

Unit's housing and connectors with dimensions (not to scale)

For further information, including price and availability, please contact products@ttcontrol.com.