SGL81-W

Smart LTE Cat 4 Gateway

Key Features

The next-generation LTE Cinterion® SGL81 IoT Gateway combines field-proven technology with Embedded Processing for a wide range of applications demanding cost-effective LTE Cat-4 speeds. A 20-pin GPIO connector and multiple interfacing options enable applications that require sensor interfacing, actuator control, data processing or protocol translation at the edge.

An easy-to-use migration option for gateway applications using Cinterion® PLS62T and ELS61T, the future-proof LTE Smart Gateway provides out-of-the-box global LTE Cat-4 connectivity with seamless 3G/2G fallback for a flexible, cost-effective platform to connect industrial assets using field-proven LTE technology. Embedded Processing allows business logic to be put inside the SGL81 to build a Gateway application. It can also be used as a simple modem providing a cellular connection to the Internet with the intelligence residing in the application rather than in the SGL81. The smart Gateway adds support for USB, embedded processing via the Cinterion SDK and ThreadX as well as future GNSS* support.

Fastest Way to Connect Assets

The 20-pin GPIO connector (GPIOs, SPI, I2C, PWM) and higher bandwidth enables a wider range of applications including video surveillance, robotics, Industry 4.0, remote maintenance & control, smart cities, vending machines, and healthcare applications. The plug-n-play, highly efficient SGL81 offers highly efficient LTE connectivity with data speeds of up to 150Mbps.

Designed to operate in extended temperatures of -30° to +80° C for industrial applications, the next-generation Gateway features integrated GNSS* (GPS/GLONASS/Beidou/Galileo), a USB2.0 interface, drivers for Windows® 10/11, Android and Linux, as well as trusted identity for AWS and Azure, watchdog and an optional eSIM. The SGL81 reduces time to market with simplified integration, manufacturing and logistics for a wide range of applications. Connection Manager software ensures easy setup in the field and over-the-air firmware updates extend service life. The SGL81 is available in three variants including USB/RS-232, RS485 and LAN options.

GNSS support available in 2023

AVAILABLE FOR

Global

General Features

- 3GPP Rel.10 Compliant Protocol Stack
  - FDD-LTE: bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28, 66
  - TD-LTE: bands 38, 40, 41
  - UMTS (WCDMA/FDD): bands 1, 3, 2, 4, 5, 6, 8, 19
  - Quad Band GSM: 850, 900, 1800, 1900 MHz

- Control via standardized commands (Hayes, TS 27.007 and 27.005) and AT commands

- Embedded IPv4 and IPv6 TCP/IP stack access via AT command and transparent TCP/UDP services

- Secure Connection with TLS/DTLS

- Internet Services: TCP server/client, UDP client, DNS, Ping, HTTP client, SMTP, FTP client, MQTT client

- SIM Application Toolkit with BIP

- Cinterion® IoT SDK (ThreadX) Embedded processing option with API. Memory space available for embedded applications is 512KB for application code, 1024KB for File System and 12M for RAM.

- Supply voltage range: 8 - 57 V

- Dimensions: 113.8 x 75.3 x 25.3 mm (excluding connectors)

- Operating temperature: -30° to +75°C

- Weight: 130g (approx.)

Specifications

- Cat-4 with 3G/2G fallback

- FDD-LTE Cat.4
  - DL: max. 150 Mbps, UL: max. 50 Mbps

- HSDPA Cat.14 / HSUPA Cat.6 data rates
  - DL: max. 21 Mbps, UL: max. 5.76 Mbps

- E/GPRS Class 12
  - DL: max. 237 kbps, UL: max. 237kbps

- SMS text and PDU mode support
  - Multiple Operator VoLTE support, CSFB (circuit-switched fallback)

Approvals

- RED, GCF, CE, FCC, PTCRB, IC, UL, UKCA

- AT&T, ANATEL, RCM and IFETEL

- Local approvals and major MNO certifications

- WEEE, EuP, RoHS and REACH compliant

Interfaces

- Main and Diversity Antenna connectors

- Plug-in power supply connector (6-pole Western jack) RS232 interface

- USB 2.0 interface up to 480 Mbps

- High speed serial modem interface ASC0

- 20 pin header with GPIO's, UART, power, SPI, I²C, ADC and I2C interface

- Digital audio interface (PCM and I2S modes)

- Mini SIM card reader, 1.8V and 3.0V

- Embedded SIM as an option (prepared)

- 2 operating status LED's

Drivers

- USB, MUX driver for Microsoft® Windows 10™ and Microsoft® Windows 11™

- RIL Driver for Android

- Ofono for Linux

Special Features

- IoT suite incremental firmware update over the air

- Cinterion® SDK for embedded processing

- Advanced security feature (secure boot, ATC secure mode)

- RLS Monitoring (Jamming detection)

- Informal Network Scan

- IoT cloud integrations with Certificate enrollment into AWS IoT Core and Azure IoT Hub

- Programmable watchdog

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