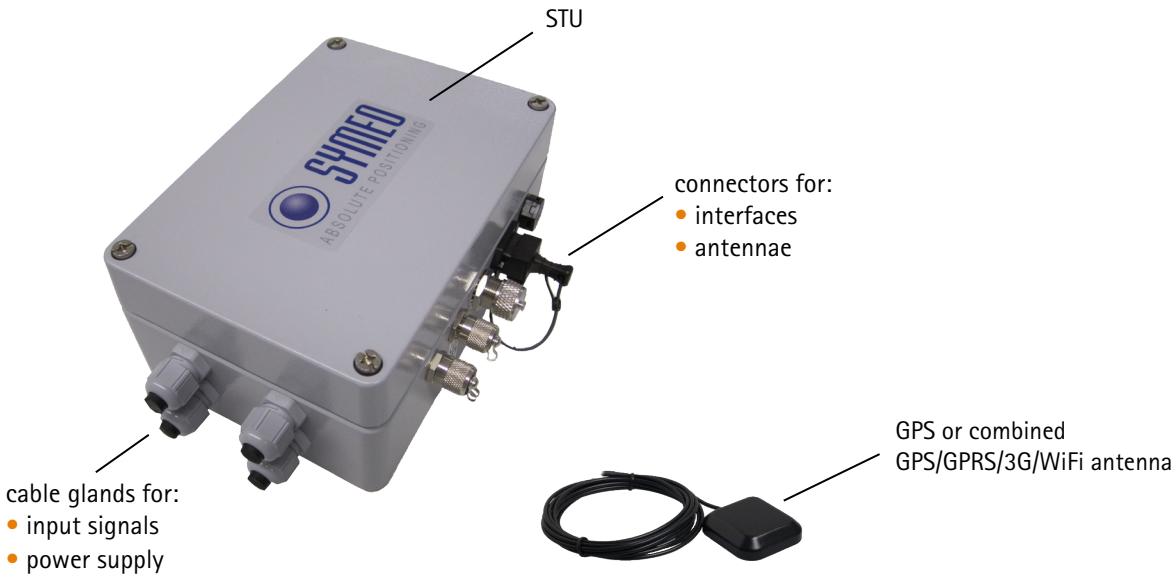
Symeo Telemetry Unit
STU

Data Sheet



STU

Reliable GPS Positioning and Vehicle Data Acquisition

- Easy to install and configure
- Unaffected by contamination, weather and vibration
- Customized communication protocol
- Different vehicle types, one standard data interface
- Powerful GNSS module
- Can be expanded for rail system applications

The Symeo Telemetry Unit (STU) is a robust electronic control unit for capturing, analyzing and transmitting analog and digital sensor data. The flexible and configurable data collector and communication gateway is designed for industrial vehicles, cranes, buses and trains and offers uninterrupted operation in both outdoor and harsh industrial environments.

The STU features a powerful processor with extensive data storage capacity and an integrated GNSS module for position detection. It can be easily configured with the Linux open source operating system. This versatile product enables real-time processing, data fusion and offline storage of various sensor signals for vehicle control and fleet management applications. It can also be deployed as a flexible sensor data interface to higher-level software-based control systems. Remote access for data analysis and system maintenance is available as a standard feature. The data can be transmitted via Ethernet/serial or via wireless technology such as GSM/UMTS or an IEEE 802.11 over-the-air module.

For rail system applications, Symeo developed a special version of the STU, marketed as DATROS, with regard to the norms 50121, 50155 and EN 45545. The DATROS system is equipped with all relevant data interfaces as well as with a short-term uninterruptible power supply. Measurement data can be stored for up to one year, making DATROS an ideal solution for smart metering applications.

Typical STU applications

Technical Data: STU	
Digital inputs / outputs	8 / 8, opto-isolated, open collector (outputs), 0-40 V
Analog inputs (10 bit resolution)	3, opto-isolated, 0-10 V or 4-20 mA or quad counter for encoder signals
Status indication	LED
GNSS receiver	L1 frequency, C/A code, Glonass L1 FDMA, 56 channels continuous tracking SBAS: WAAS, EGNOS, MSAS update rate: up to 10 Hz; accuracy: up to +/- 2.5 m CEP * signal acquisition, cold: < 1 min reacquisition, hot: 1 s position data: NMEA or local xy-coordinates
GSM/UMTS (3G) data communication	optional: HSUPA/HSDPA/HSPA or GPRS/EDGE modem
Inertial sensor	on-board (option)
Data storage	micro SD card slot and USB for on-board data logging
Data interfaces	serial RS232/RS422, Ethernet (100 MBit) TCP/IP or UDP, CAN bus, USB
WiFi	optional: 802.11 b/g module with 802.11i (WPA2) security
Antennas	external, GPS only or combined GSM/UMTS, WiFi 802.11 and GPS
External connection	cable gland/internal terminal block, Ethernet TCP/IP, antenna connector
Voltage	10-36 V DC, voltage continuously monitored for battery protection
Power consumption	up to 15 W (depending on options)
Ambient temperature	-40 °C to +75 °C
Protection class	IP65
Housing dimensions (LxWxH); weight	200 x 140 x 93 mm; 2 kg

** based on sufficient GNSS satellites (> 8) with required signal quality available*

DOC.DBL.000163.0002.Symeo_Datasheet_Symeo_Telemetry_Unit_STU_and_DATROS

SYMEO GmbH • Prof.-Messerschmitt-Str. 3 • 85579 Neubiberg/Munich, Germany
phone: +49 89 6607796-0 • fax: +49 89 6607796-190 • www.symeo.com • info@symeo.com

version 04/2016