

Mobile data logging, processing, storing and internet connectivity

- Easy and flexible cloud and IoT connectivity for vehicles of all kinds
- Based on current Linux kernel 4 system, freely programmable and configurable
- LTE / 4G Internet connection - fast data transfer and all over the country availability
- State-of-the-art GNSS-GPS / GLONASS technology
- Flexible vehicle connection:
up to 3 CAN bus interfaces, power control, acceleration, RS232, RS422, RS485, USB, LAN, microSD card, SIM card, digital inputs and outputs, analog inputs, 1-wire, I2C interface
- Ultra low power consumption
- Space-saving and stable metal housing
- Extended temperature range
-40 ° C .. + 85 ° C available
Interface layout is model dependent



The RX-8400 is a mobile-ready system designed to make vehicle data easily available in the cloud. The fast implementation of the Cloud-/IoT-software is made easy thanks to the well-equipped Linux system. The wireless connection to the internet is realized via the fast and all over the country available 4G/LTE interface. The position data is supplied by a powerful GPS system. The RX-8400 systems have up to three CAN-interfaces for data connection to the vehicle. The CAN data can be processed as raw CAN telegrams as well as in the J1939 standard. A large number of additional interfaces ensure seamless connection to the vehicle.

LTE/4G High speed Internet connection

The integrated high-speed LTE/4G Internet connection enables immediate, worldwide online access to the vehicle data. The LTE/4G module is integrated in the Linux system ready for operation and integrated as a standard network connection. The SIM card is inserted into an externally accessible card holder with a stable locking mechanism. The GNSS GPS/GLONASS positioning interface provides the exact location of the vehicle. Both the LTE/4G and GNSS GPS/GLONASS interfaces are equipped with FAKRA or alternatively with SMA connectors for the external antenna connector.

Flexible and powerful Linux system

The RX-8400 comes with two different Linux distributions, taking into account the different requirements profiles in mobile applications. Both Debian 9/Stretch and the very powerful buildroot-based Axotec Linux system are based on the current version 4 standard kernel. Fast software implementation is secured by proven and ready-to-run protocols such as SocketCAN, J1939, CANopen, Modbus and many others.

Extensive Connectivity

The extensive hardware interfaces of the RX-8400 computers enable integration even in demanding applications. Up to 3 CAN interfaces, LAN, WLAN and Bluetooth, several RS232, RS422/485 ports, 2 USB hosts, 1-Wire and I2C connectivity provide the connection to vehicle and network. In addition, up to 8 digital inputs and up to 8 digital outputs and analogue inputs are available. The microSD card interface provides additional, extensive and replaceable data storage and is provided with an additional protective cover. The SIM card slot is suitable for industrial use, firmly locked and accessible from the outside.

Specifications

RX-8400 product family

	RX-8400 BASIC	RX-8400 CLASSIC	RX-8400 PRO	RX-8400 FLEX
Linux operating system	Debian 9/Stretch and Debian 8/Jessie and Compact Linux system supported, Kernel 4 based system Linux system preinstalled, The Linux system is freely customizable			
Processor	ARM-400MHz			
Flash	256 MB onboard, 4 MB NOR Flash			
Main memory	128 MB DDR			
Mass storage	microSD-Card, accessible from frontside, with retainer			
LTE/4G	Dual-Band TDD-LTE B38/B40, Five-Band FDD-LTE B1/B3/B7/B8/B20, Dual-Band UMTS/HSDPA/HSPA+ B1/B8, Dual-Band GSM/GPRS/EDGE 900/1800 MHz Powercontrol and Reset can be controlled independently via software			
4G antenna connector	FAKRA connector purple or SMA female connector, Optional: auxiliary antenna connector			
GNSS (GPS, GLONASS)	Protocol: NMEA-0183, GPS supports MS/UE-based, MS/UE-assisted and hybrid modes with AFLT (CDMA), NMR (GSM), and MRL(UMTS, WCDMA, LTE), standalone and network-aware modes , A-GPS Accuracy: 2.5m (CEP50) TTFF (Open Sky), Hot start <1s, Cold start 35s GPS: Cold start sensitivity: -148dBm, Tracking sensitivity -159 dBm GLONASS: Tracking sensitivity -158 dBm , supports standalone mode			
GNSS antenna connector	FAKRA connector blue or SMA female connector, integrated power supply for active antennas			
CAN-Bus	1	2	2	0/1/2/3
Network	1 x 10/100 BaseT Ethernet Schnittstelle			
USB Host	2 x USB host 2.0 high speed 480MBit/s			
RS232	1 x RS232 - Universal use 1 x RS232 - Terminal			
RS422 / RS485	-	-	1 x RS422/RS485 1 x RS485	0/1 x RS 422/RS485 0/1/2 x RS485
Digital inputs	-	4 digital, isolated inputs, wet contact, optional dry contact	8 digital, isolated inputs, wet contact, optional dry contact	0/4/8 digital, isolated inputs, wet contact, optional dry contact
Digital outputs	-	2 highside switch outputs	8 highside switch outputs	0/4/8 highside switch outputs
RTC	Battery-buffered RTC for permanent availability of time and date			
WiFi	Optional: WLAN / WiFi 802b/g/n			
Bluetooth	Optional: Bluetooth 4.0, backward compatible with Bluetooth 2.0/2.1/3.0			
Sensors	3-Axis acceleration: +-2G,+-4G,+-8G Temperature: -40°C..+85°C			
1-Wire	-	-	1	0/1
I2C-Isolated	-	-	-	0/1
Status LEDs	1 x Power on, 1 x System activity, 1 x microSD access, 3 user-programmable LED's LTE/4G Status LED			
Hardware Watchdog	Hardware Watchdog for automatic reboot trigger Can be combined with Linux Watchdog			
ActionButton	Concealed button for starting a user-specific program or script			
Power supply	Wide range DC input 8..40 Volt with polarity protection, Industrial connector Ultra Low Power Consumption from 1,5 Watts			
Powercontrol	-	-	yes	no/yes
Temperature	Storage: -40°C..+85°C, Standard Operational: +5°C..+70°C non condensing Wide Temperature models, operational extended: -30°C..+80°C non condensing Wide Temperature models, operational extended restricted: -40°C..+85°C non condensing*			
Case	Sturdy aluminum housing, Dimensions: ca. 102 x 95 x 38 mm			
Mounting options	Mounting brackets, Mounting brackets with integrated dampers against vibration and shock DIN-Rail vertical and DIN-Rail horizontal			

* The performance will be slightly reduced from the 3GPP specifications

Axotec Technologies GmbH
Sudetenstraße 88
D-82538 Geretsried

fon +49 (0)8171 92192-0
fax +49 (0)8171 92192-40
info@axotec.de • <http://www.axotec.com>

Axotec
Hightech made applicable

Technical specifications are subject to change without prior notice!
Axotec is registered Trademark. All product and trademarks are
properties of their respective owners.