



CAN-LWL-Router EtherCAN FX

Special Features

- Optical fibre based Ethernet/CAN router for the connection of CAN subnetworks
- Powerful 32 bit microcontroller Samsung S3C4510B with CAN controller SJA1000
- Abrogation of the extension/datarate restrictions of the CAN bus
- The CAN typical error handling mechanisms are preserved
- Optical fibre extensions up to 15/40 km possible (2 different device types)
- Adaptation to higher layer protocols (e.g. SafetyBus p, CANopen) using specific firmware
- Rail mountable

Description

EtherCAN FX transmits data between CAN networks using optical fibre. To achieve the connection two devices are linked back-to-back. The transmission protocol used on the optical fibre is the reliable TCP/IP protocol. The use of TCP/IP abrogates the length/datarate restrictions, the typical error handling mechanisms of CAN are preserved within the single subnets. Depending on the type of the device, extensions up to 15km or 40km are possible.

EtherCAN FX includes a Samsung S3C4510B (ARM7 core) with 50Mhz clock and a Linux operating system. In addition, the device has 16MB SDRAM and 2MB Flash. The connection to the CAN bus is done by a CAN controller of type NXP SJA1000 which supports the CAN protocols 2.0A and 2.0B.

The use of Embedded Linux as operating system allows the development of application specific software for EtherCAN FX, an application development kit is separately available.

Safety-related applications with SafetyBUS p are supported by the version SBR FX.

Technical Data

Layout and Connection

EtherCAN FX includes a CAN segment connected by a D-Sub 9 male plug. The power supply of the device is achieved by plugable terminals with 4 contacts. For configuration purposes a RS232 interface is provided.

A pair of single mode optical fibres (9µm) are connected by LC plugs

Limiting Values

Parameter	Minimal	Maximal	Unit
Storage temperature	-25	+70	°C
Operating temperature	0	+50	°C
Supply voltage	-100	+36	V
Voltage on bus connections	-30	+30	V

Any (also temporary) stress in excess of the limiting values may cause permanent damage on EtherCAN FX and other connected devices. Exposure to limiting conditions for extended periods may affect the reliability and shorten the life cycle of the device.

Nominal Values

Parameter	Minimal	Typical	Maximal	Unit
Current consumption (running idle)	n.s.	80	200	mA
Supply voltage	20	24	36	mA
Optical damping (EtherCAN FX-15000/RMD)	n.s.	13	n.s.	db
Optical damping (EtherCAN FX-40000/RMD)	4	28	n.s.	db
Admissible fibre length (EtherCAN FX-15000/RMD)	n.s.	15000	n.s.	m
Admissible fibre length (EtherCAN FX-40000/RMD)	n.s.	40000	n.s.	m

All values, unless otherwise specified, refer to a supply voltage of 24V and an environmental temperature of 20°C. Fibre length specifications are valid for fibre damping of 0,55dB/km without additional patch panels.

Scope of Delivery

- EtherCAN FX
- User Manual