

# COMfalcon<sup>®</sup>

The flexible CAN diagnostics VCI





# COMfalcon®

COMfalcon® is a powerful VCI with WLAN/LAN interface and various equipment options. Use it for monitoring, flashing or analyzing CAN networks and handling layer-7 protocols like CANopen or SAE J1939. It is a very flexible and easy to use tool for the detection of CAN data and monitoring of entire networks.

## Key Features

- CAN
**4× independent CAN channels**
- WLAN
**WLAN interface**
- RS 232
**RS232**
- RS 422
**RS422**
- RS 485
**RS485**
- K-Line
**K-Line**
- ☑ =
**Protocolhandling**
- 📄 0101 1010 0101
**Optional with data logging, scripting, CAN voltage level oscilloscope functionality**
- 📄 SD
**Optional with integrated SD card**
- ↕
**Compact housing with protection class IP65**

## Housing and status indicators

The device has a fairly rugged housing built of aluminium with IP65 protection. Thanks to the compact design and high shock resistance, COMfalcon® can be used for various automotive applications. Two 14-segment displays and nine LEDs are always showing the current status/error code of the device.

## Interfaces

The COMfalcon® has four independent CAN channels and is based on the CAN interface CIN with a Freescale PowerPC architecture. WLAN/LAN (infrastructure mode) is used to connect to a diagnostic laptop/PC. In addition to the CAN interfaces a various of other interfaces such as RS232, RS422, RS485 or K-Line are available for diagnostic purposes.

## Error frame detection

This feature allows surveillance and monitoring of a CAN network. The COMfalcon® possesses an own logic for detecting error frames and counting them up in a specific internal memory area. That is used for finding intermittent errors like falsified messages of a CAN participant.

## Technical Data

CPU	Freescale PowerPC
RAM	64 MB
Memory	16 MB (for data logging optionally up to 128 MB)
CAN interface	4× CAN interface acc. to ISO 11898
Baud rates	50 Kbit/s up to 1 Mbit/s
CAN termination resistance measurement	Terminating resistor of the vehicle CAN network with active bus
CAN Port	2× 7-pole M16 port (like Sontheim CANUSB-2)
RS232 interface	D-Sub9 Plug A
Serial multiplex interface	D-Sub9 Plug A; 5 different serial interfaces, changeable via software
K-/L-Line interface	K-/L-Line (acc. to ISO 9141-2, ISO 14230-4), Baud rate up to 56 kBaud/s
RS485 interface	EIA/TIA-485 compatible Baud rate up to 10 Mbit/s no integrated termination resistor
RS422 interface	ANSI/TIA/EIA-422 compatible Baud rate up to 10 Mbit/s no integrated termination resistor
LAN	M12 4-pin female connector 100 Mbit/s LAN, D-codiert
WLAN	1× acc. to IEEE 802.11g, up to 54 Mbit/s
14-segment display	Boot information, K-line mode, RS-mode, measurement, error codes
LEDs	Power LED (green) LAN status LED (green and yellow) WLAN status LED (green and yellow) 4× CAN status LED (green and yellow) 2× RS status LED (green and yellow)
Dimensions (l×w×h)	110 mm × 150 mm × 35 mm
Housing	Aluminium, protection class IP65
Storage temperature	−40 °C up to +85 °C
Operating temperature	−20 °C up to +60 °C
Supply	a.) 6 up to 32 V DC with load-dump protection b.) via USB V = 5 V, IMAX < 500 mA (with Mini-B-USB connector)



## ID-based level measurement – resistance measurement/current measurement

This feature allows to read the CAN level even IO-related and to measure active and passive termination resistors, for example for various diagnostics on a vehicle or a machine. This is especially important if the network may lose data caused for example by short circuits.

## The Sontheim Modular Diagnostic Tool Chain

You can easily create your individual and professional diagnostic solution for automotive application with the help of the Sontheim interfaces and diagnostic software. Some use cases by linking hardware and software are:

- CAN data visualization, monitoring and processing
- Parameterization and control of whole CAN networks
- Vehicle diagnostics
- Flash processes of electronic control units (ECUs)

## Pin assignment

### RS1



1	VTRAC
2	GND
3	COM+
4	COM−
5	ISOK
6	ISOL
7	NC
8	RS422 RX+
9	RS422 RX−

### CAN 1/2



1	CAN2 low
2	CAN2 high
3	NC
4	CAN1 low
5	CAN1 high
6	Ubat
7	CAN GND

### RS2



1	NC
2	RS232 RX
3	RS232 TX
4	NC
5	GND
6	NC
7	NC
8	reserved
9	reserved

### CAN 3/4



1	CAN4 low
2	CAN4 high
3	NC
4	CAN3 low
5	CAN3 high
6	Ubat
7	CAN GND

### LAN



1	TX+
2	RX+
3	TX−
4	RX−

## Order information

V930232000

COMfalcon®



**Mobile Automation**



**Industrial Automation**



**Diagnostics**



**Connectivity**

**We are looking forward to your enquiry!**

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