



COMfalcon

Description and Installation Instructions

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1. Preliminary Note

This document applies to devices of the type COMfalcon. This document is intended for specialists. These specialists are people who are qualified by their appropriate training and their experience to see risks and to avoid possible hazards that may be caused during operation or maintenance of the device. The document contains information about the correct handling of the device.

Read this document before use to familiarize yourself with operating conditions, installation and operation. Keep this document during the entire duration of use of the device.

1.1. Symbols used

-  Instructions
-  Reaction, result
- [...] Designation of pushbuttons, buttons or indications
-  Cross-reference
-  Important note
Non-compliance can result in malfunction or interference
-  Information
Supplementary note

2. Safety instructions

2.1. General

These instructions contain texts and figures concerning the correct handling of the device and must be read before installation or use. Observe the operating instructions. Non-observance of the instructions, operation which is not in accordance with use as prescribed below, wrong installation or incorrect handling can seriously affect the safety of operators and machinery.

2.2. Target Group

These instructions are intended for authorized persons according to the EMC and low-voltage directives. The device must only be installed, connected and put into operation by a qualified person.

2.3. Electrical connection

The connections may only be supplied with the signals indicated in the technical data and/or on the device label.

2.4. Tampering with the device

In case of malfunctions or uncertainties please contact the manufacturer. Tampering with the device can seriously affect the safety of operators and machinery. It is not permitted and leads to the exclusion of any liability and warranty claims.

2.5. Radio Frequency Safety Cautions

Radiofrequency radiation exposure Information:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTE: *This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

NOTICE:

This device complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and*
- (2) this device must accept any interference received, including interference that may cause undesired operation.*

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et*
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

NOTICE:

Changes or modifications made to this equipment not expressly approved by Sontheim Industrie Elektronik GmbH may void the FCC authorization to operate this equipment.

2.6. Label Information

Description:

Part number

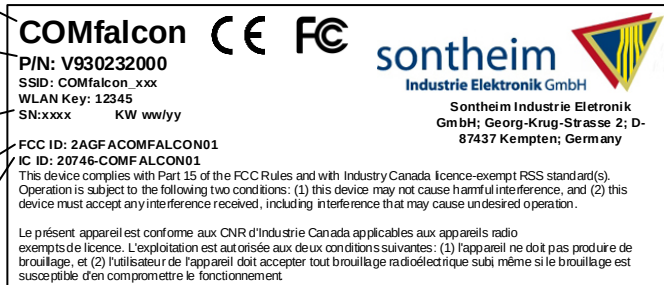
=Hardware

Version Identification Number

Serial number

FCC Identification number.

IC ID - Identification number.



3. Scope of the Product

The COMfalcon is a diagnostic and communication interface which can be used to connect with 3rd party systems and equipment and to fulfil the customer specific requirements.

3.1. Description and function

The COMfalcon is a compact, portable vehicle communication interface designed for diagnostic purposes in CAN networks and vehicle fieldbuses. Equipped with 4 CAN channels acc. ISO 11898-2, RS-232, K/ L-Line, Ethernet and Wi-Fi the device is equipped with multifunctional interfaces for connecting the device to 3rd party systems. It allows the connection of different CAN busses over IP networks and provides also a logging function.

4. Assembling

The device is operating without an assembling.

5. Electrical connection

5.1. General electrical connection

Wiring ➡ technical data



The connection of the device to the CAN system is made over 2x7 pole M16 connectors

6. Display elements



- 1 Status LEDs
- 2 Two 14 Segment Displays

Operating states ➡ technical data

7. Installation the COMfalcon Driver Package



You have to have administrator rights to start the installation.

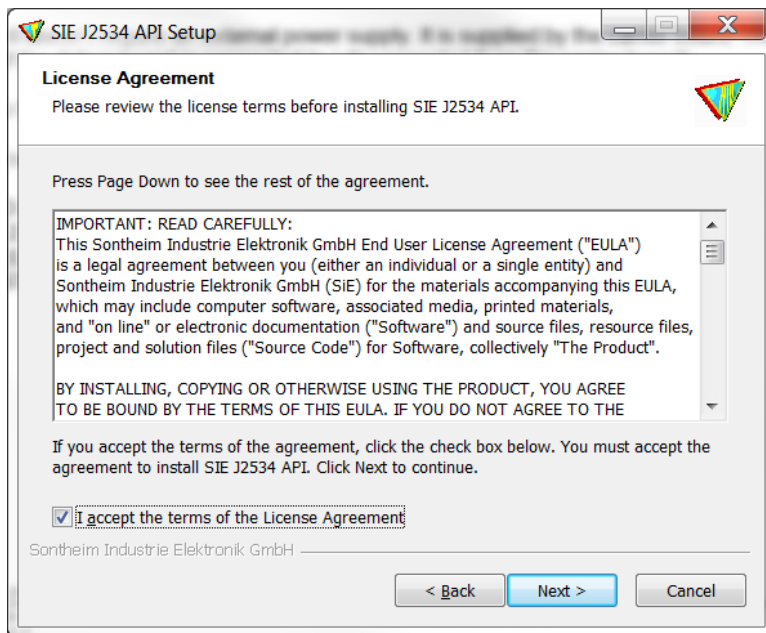
- ▶ Start the installation with double-clicking the install file “J2534-Setup.exe”.

Name	Änderungsdatum	Typ	Größe
J2534-Setup.exe	22.07.2015 15:34	Anwendung	4.650 KB

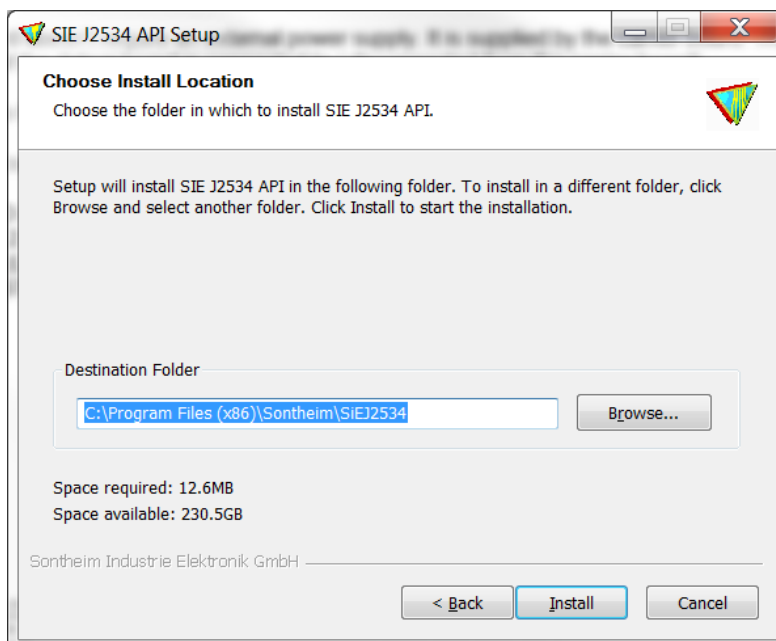
- ▶ Initiate the Setup through pressing the “Next” Button



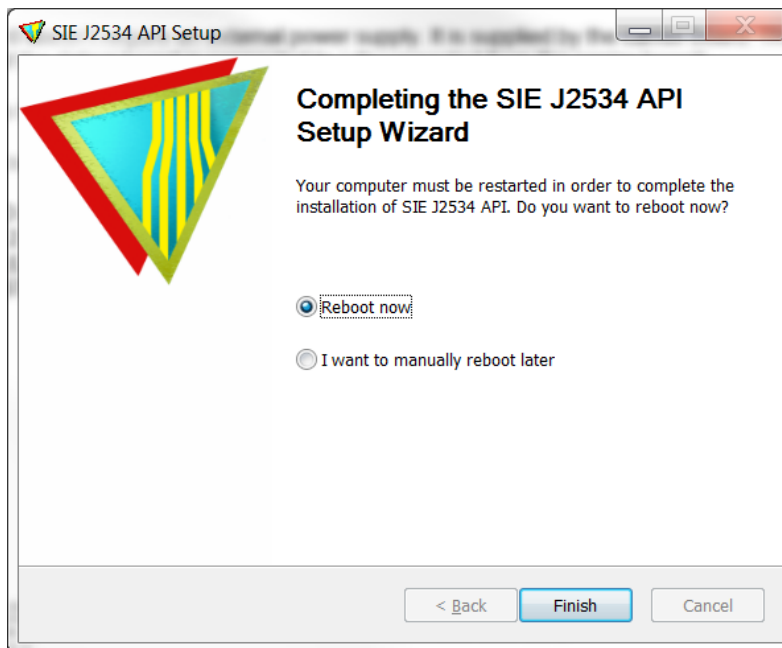
► Read through and then accept the License Agreement



► You now can select the Installation Folder



- After Installation a Reboot of the System is required



8. COMfalcon Setup

- ▶ First install the setup "J2534-Setup.exe" as described in → 7. Installation COMfalcon Driver Package
- ▶ Connect the CAN-cables to the COMfalcon.



- Using the Ethernet interface the cable with the black M12 connector must be plugged into the green connector of the COMfalcon.



- Using the RS422/KLine interface the cable with the SUB-D9 connector must be plugged into the left SUB-D9 connector of the COMfalcon.

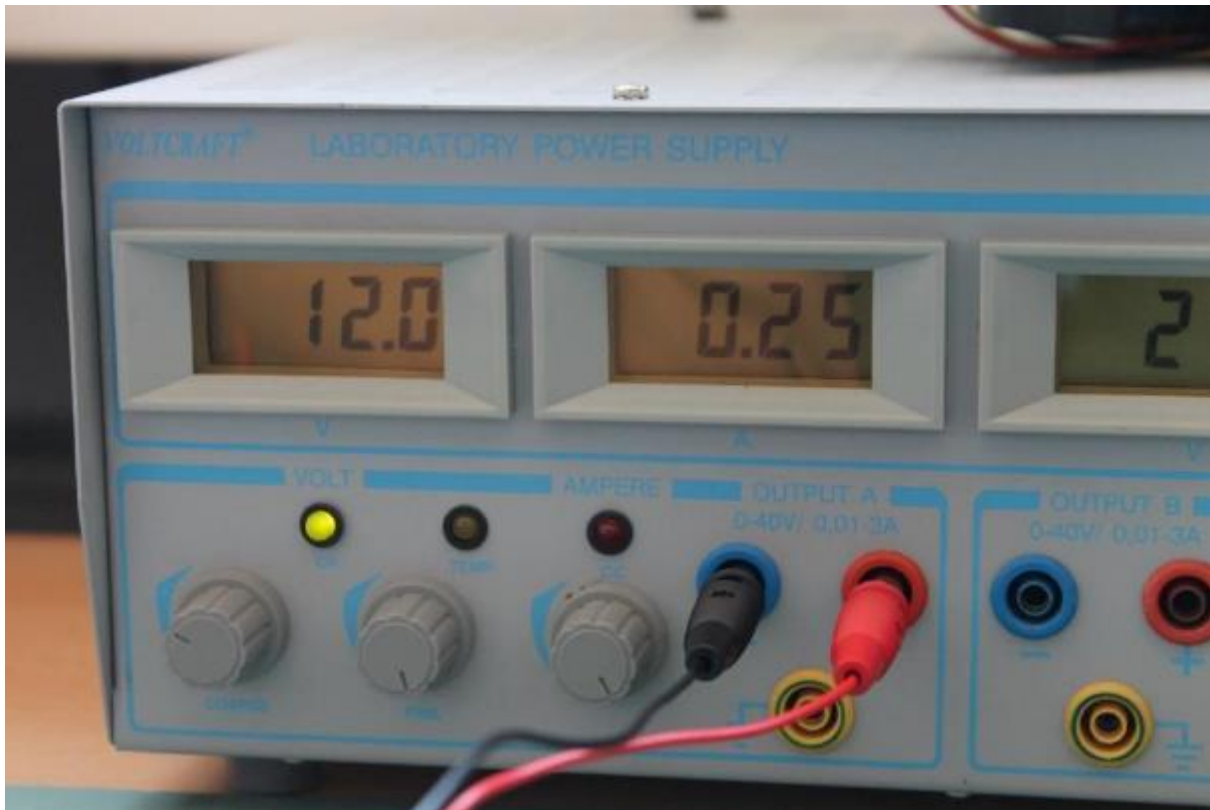


- Using the RS232 interface the cable with the SUB-D9 connector must be plugged into the right SUB-D9 connector of the COMfalcon.

One of the two CAN-cables or the RS422/KLine cable has to support the 12V power supply.
The COMfalcon must be powered.



The USB interface does support power supply for the COMfalcon, but with limited functionality (one CAN channel active only, no WiFi).



9. Technical Data

9.1. Overview technical data

COMfalcon	Technical Data
CAN Interfaces	4x CAN interfaces, according ISO 11898-2
Baud rate	50kBit/s to 1Mbit/s
CAN terminating resistor measurement	Measurement of the terminating resistor in the vehicle CAN – Network, until active bus
CAN Port	2x7 pole M16 connector
RS-422, K/ L-Line	SUB-D9 male connector
RS232	SUB-D9 male connector
LAN	M12 4-Pin female connector 10/100 Mbit LAN
WLAN	WLAN according to IEEE 802.11b,g,n up to 65 Mbit/s
14 Segment Display	Boot-Information, K/ L-Line, RS-Mode, Measurement, Error Codes
LEDs	LAN Status LED, green and yellow Wi-Fi/Bluetooth Status LED, green and yellow 4xCAN Status LED, green and yellow RS-232/ K/ L-Line Status LED, green and yellow
Power Supply	via CAN
Housing	Aluminum, Protection class IP50
Dimensions	110 x 150 x 35mm
Operating Temperature	-20°C ... +60°C
Storage Temperature	-40°C ... +85°C

9.2. CE-Marking

COMfalcon	CE-marking
CE-marking	EN 61000-6-2 electromagnetic compliance (EMC) interference immunity (10 V/m)
	EN 61000-6-4 electromagnetic compliance (EMC) electromagnetic interference
	EN 61000-4-2 electrostatic discharge (ESD)
	EN 61000-4-3 Immunity to radiated electromagnetic fields
	EN 61000-4-4 Immunity to electrical fast transient
	EN 61000-4-6 Immunity to conducted disturbances, induced by radio-frequency fields
	EN 300 328
	EN 60950

9.3. Operating status

9.3.1. LEDs

Tbd

9.3.2. 14 Segment Display

Tbd

9.4. Interfaces and Pin Assignments

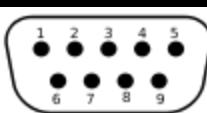
The interfaces are located at the top and the bottom of the device, a 14 Segment Display is located at the front of the device.

9.4.1.CAN

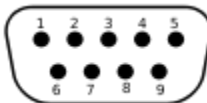
CAN 1/2	Pin	Signal	Implementation
	1	CAN2_LOW	CAN2 low signal
	2	CAN2_HIGH	CAN2 high signal
	3	CAN_GND	CAN Ground
	4	CAN1_LOW	CAN1 low signal
	5	CAN1_HIGH	CAN1 high signal
	6	VBAT	Battery power supply 12V+ DC
	7	0V	Battery power ground

CAN 3/4	Pin	Signal	Implementation
	1	CAN4_LOW	CAN4 low signal
	2	CAN4_HIGH	CAN4 high signal
	3	CAN_GND	CAN Ground
	4	CAN3_LOW	CAN3 low signal
	5	CAN3_HIGH	CAN3 high signal
	6	VBAT	Battery power supply 12V+ DC
	7	0V	Battery power ground

9.4.2.RS-422/485 and K/ L-Line

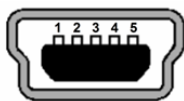
RS-422 and KLine	Pin	Signal	Implementation
	1	VTRACT	Supply Voltage
	2	GND	Ground
	3	COM+	Multiplexed Communication Signal + ; RS422 TX+
	4	COM-	Multiplexed Communication Signal – ; RS422 TX-
	5	ISOK	K-Line, ISO 9141 / n. c.
	6	ISOL	L-Line, ISO 9141 / K-Line, ISO 9141
	7	/BOOTPROG	Boot loader programming active
	8	RS422 RX+	RS422 RX+
	9	RS422 RX-	RS422 RX-

9.4.3.RS-232

RS-232	Pin	Signal	Implementation
	1	NC	Not connected
	2	RS232 RX	RS232 Receive Signal
	3	RS232 TX	RS232 Transmit Signal
	4	NC	Not connected
	5	GND	Ground
	6	NC	Not connected
	7	NC	Not connected
	8	NC	Not connected
	9	NC	Not connected

9.4.4.USB 2.0 (supply only)

Mini-B USB 2.0

USB 2.0	Pin	Signal	Implementation
	1	VCC	5V+ USB power supply
	2	NC	Not connected
	3	NC	Not connected
	4	NC	Not connected
	5	GND	Ground

9.4.5.Ethernet

Ethernet	Pin	Signal	Implementation
	1	ETH_TX+	Ethernet differential transmit positive signal
	2	ETH_RX+	Ethernet differential receive positive signal
	3	ETH_TX-	Ethernet differential transmit negative signal
	4	ETH_RX-	Ethernet differential receive negative signal

9.4.6.Wi-Fi

Wi-Fi according to IEEE 802.11b, g, n up to 65 Mbits/s, external antenna

9.5. Labels

9.5.1.Front Label



10. Maintenance, repair and disposal

10.1. Maintenance

The device does not contain any components that need to be maintained by the user.

10.2. Cleaning the housing surface

- ▶ Disconnect the device.
- ▶ Clean the device from dust and light dirt using a soft, chemically untreated, dry cloth.
- ▶ In case of heavy dirt use a damp soft clean cloth



The following agents are not suited for cleaning the device:
chemicals dissolving plastics such as methylated spirit,
benzine, thinner, alcohol, acetone or ammonia.



Micro-fibre cloths without chemical additives are
Recommended

10.3. Repair

- ▶ The device must only be repaired by the manufacturer.
Observe the safety instructions (➡ 2.4. Tampering with the device)

10.4. Disposal

- ▶ Dispose of the device in accordance with the national environmental regulations.

11. Approvals/standards

Test standards and regulations (➡ technical data)

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Sontheim Overview and Portfolio



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www.sontheim-industrie-elektronik.de

Sontheim Industrie Elektronik GmbH
Georg-Krug-Str. 2, 87437 Kempten
Tel: +49 831 57 59 00 -0 - Fax: -73
info@si-e.de

Sontheim Industrial Electronics Inc.
One West Court Square, Suite 750
Dacula, GA 30030
Phone: +1 (404) 494 - 7839 - Fax: -7707