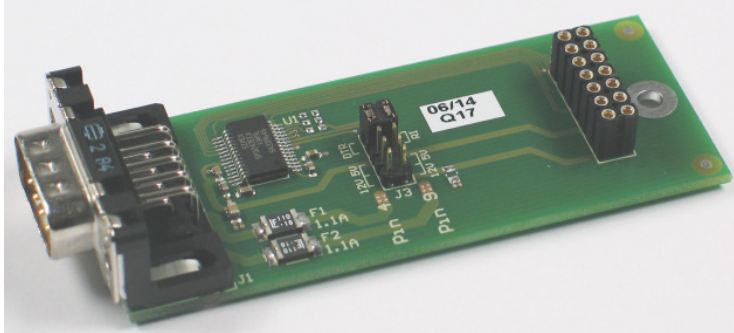# RS232 Interface Modules

Fig. 1:   RS232 Interface Module

1   General information

The noax RS232 interface module is intended for installation into noax Industrie-PCs with mainboard types N11, N10, N8 and N6. Up to two interface modules can be installed into an noax Industrie-PC.

During ordering process the installation slot (COM 1 or COM 2) and, if necessary, the configuration for the provided power supply for external RS232 devices have to be defined. (see chapter 2.2)

If necessary the interface modules can be installed later at customer site by the customer himself. For further information please contact the noax hotline.
(see contact details on last page)

⚠ **Repairs and upgrades have to be carried out by authorized specialized personnel.**

⚡ **CAUTION — Highly sensitive electronic components!**
The Industrie-PC contains electronic components with highly integrated modules or modular elements. These electronic components are highly sensitive to surges as well as electrostatic discharge (ESD). To avoid damage, you should discharge static electricity from your body before handling any system components. When working on electronic components, please use an approved ESD wristband.

⚠ **CAUTION — Pay attention to pin assignment!**
Pay attention to the pin assignment and safe connection of the cables.

⚠ **CAUTION — Pay attention to maximum output current!**
The ouput current for the provided power supply for connected external RS232 devices is limited to max. 1.0 A.
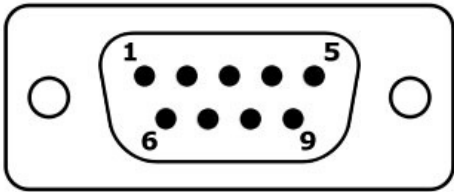
2   Technical specification

Description	noax RS232 interface module
Transfer rate:	max. 115.2 kBaud
Input resistance:	min. 3kOhm, max. 7kOhm
Input voltage:	max. +/- 25V
Output voltage:	typ. +/- 10V
Short-circuit current:	typ. +/- 30mA
Cable capacity:	max. 8,0 nF
Temperature range:	0°C − +70°C (32° − 158° F)
Power supply for external RS232 devices:	Depends on ordered configuration (see chapter 2.2): 5V +/− 5% or 12V +/− 5% at Pin 9, max. 1.0A 5V +/− 5% or 12V +/− 5% at Pin 4, max. 1.0A

2.1   Connector pinout

⚠ **WARNING — NO galvanic isolation!**
All interface signals (incl. GND) are NOT galvanically isolated from the enclosure ground and the power supply voltages on the mainboard.

DSUB connector, male, 9pol. front view onto the pins	Pin	Signal (default assignment)	Type
	1	**DCD** (Data Carrier Detect)	In
	2	**RxD** (Receive Data)	In
	3	**TxD** (Transmit Data)	Out
	4	**DTR** (Data Terminal Ready)	Out
	5	**GND** (Ground)	−
	6	**DSR** (Dataset Ready)	In
	7	**RTS** (Request To Send)	Out
	8	**CTS** (Clear To Send)	In
	9	**RI** (Ring Indicator)	In

ⓘ   The function of pins 4 and 9 can differ from default assignment, depending on ordered configuration for the interface module. (see chapter 2.2)

2.2   Power supply for RS232 devices

With the noax RS232 interface module it is possible to provide a power supply of 5 V DC or 9V DC for external RS232 devices via connector pins 9 or 4. Maximum output current is 1.0 A on each of the both pins.

ⓘ   **If no configuration for the interface module is ordered, the standard pin assignment is set.**
Then interface signal DTR is set for pin 4 and signal RI is set for pin 9

The configuration for the power supply can be ordered with the following noax item numbers:

noax item no. for power supply configuration of pin 9	
15169	Configuration RS232 Module 5V to Pin 9
15170	Configuration RS232 Module 12V to Pin 9

noax item no. for power supply configuration of pin 4	
15171	Configuration RS232 Module 5V to Pin 4
15172	Configuration RS232 Module 12V to Pin 4

ⓘ   For each RS232 interface module only one configuration or one configuration for pin 9 and pin 4 can be ordered.

Setting power supply configuration at already installed RS232 modules

Also on already installed RS232 interface modules the configuration for power supply of external RS232 devices can be set.

For setting the configuration the interface module has to be unplugged from the mainbord and after the configuration re-installed.

First remove the extension card from PCI/PCIe slot 2, if exists. Then remove the UNC bolts from the module in the connector area (tool: socket wrench AF 5.0 mm) and afterwards the M3 mounting screw (tool: Torx screwdriver TX10 or Philips screwdriver PH1). Now unplug the modul from the mainboard connector.
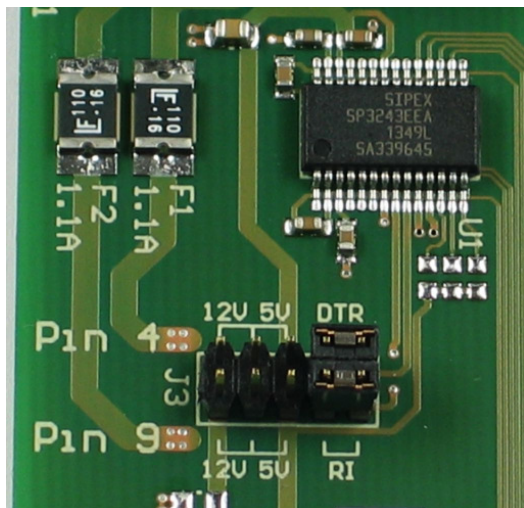

The configuration is done via jumper pair J3. With the mating jumper the power supply voltage for pin 9 and 4 can be set separately.

After configuration is done, plug the interface module onto the connector of the mainboard, screw-in and fasten the UNC bolts and at last screw-in and fasten the M3 mounting screw.

Re-install the extension card into PCI/PCIe slot 2, if uninstalled before.

Fig. 2:   Jumper pair J3 on RS232 interface module

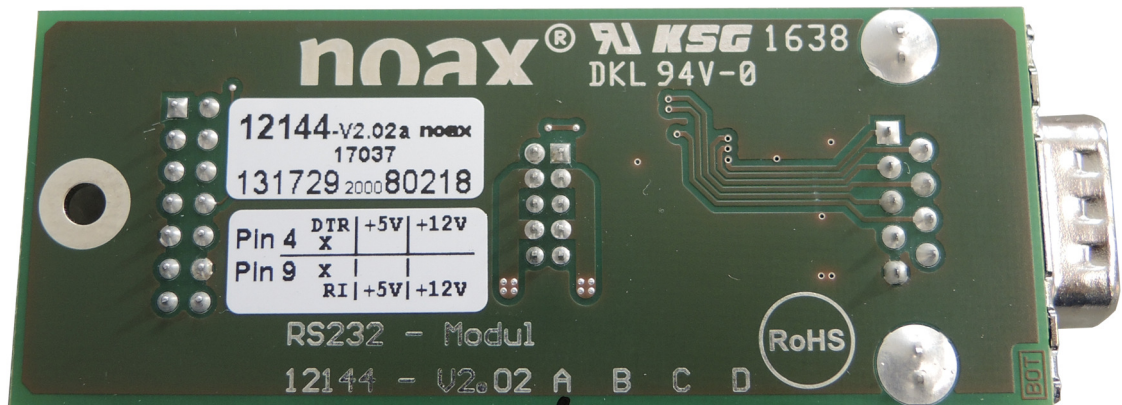## Marking of factory-provided settings

Fig. 3:   Bottom side of RS232 interface module with setting label (visible side when installed)

RS232 interface modules with factory-provided settings (see item nr. for configuration) are marked with a corresponding label in the connector area and a setting label directly on the interface module.

Optional marking of serial interface COM1 / COM2 :		noax item no.
P9/**5V**	RS232 interface module with 5 V DC power supply at Pin 9	15169
P9/**12V**	RS232 interface module with 12 V DC power supply at Pin 9	15170
P4/**5V**	RS232 interface module with 5 V DC power supply at Pin 4	15171
P4/**12V**	RS232 interface module with 12 V DC power supply at Pin 4	15172