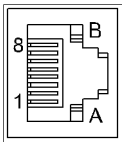
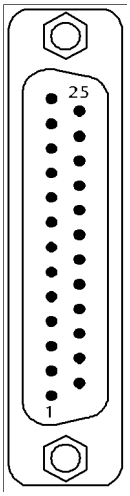
7.2.3.2 DRIVE-CLiQ interface X500

Table 7- 4 DRIVE-CLiQ interface X500

	Pin	Signal name	Technical specifications
	1	TXP	Transmit data +
	2	TXN	Transmit data -
	3	RXP	Receive data +
	4	Reserved, do not use	
	5	Reserved, do not use	
	6	RXN	Receive data -
	7	Reserved, do not use	
	8	Reserved, do not use	
	A	Reserved, do not use	
	B	GND (0 V)	Electronics ground

7.2.3.3 X520 encoder system interface

Table 7- 5 X520 encoder system interface

	Pin	Signal name	Technical specifications
	1	Reserved, do not use	
	2	Reserved, do not use	
	3	S2	Resolver signal A (sin+)
	4	S4	Inverse resolver signal A (sin-)
	5	Ground	Ground (for internal shield)
	6	S1	Resolver signal B (cos+)
	7	S3	Inverse resolver signal B (cos-)
	8	Ground	Ground (for internal shield)
	9	R1	Resolver excitation positive
	10	Reserved, do not use	
	11	R2	Resolver excitation negative
	12	Reserved, do not use	
	13	+ Temp	Motor temperature measurement KTY84-1C130 (KTY+) Temperature sensor KTY84-1C130 / PTC
	14	Reserved, do not use	
	15	Reserved, do not use	
	16	Reserved, do not use	
	17	Reserved, do not use	
	18	Reserved, do not use	
	19	Reserved, do not use	
	20	Reserved, do not use	
	21	Reserved, do not use	
	22	Reserved, do not use	
	23	Reserved, do not use	
	24	Ground	Ground (for internal shield)
	25	- Temp	Motor temperature measurement KTY84-1C130 (KTY-) Temperature sensor KTY84-1C130 / PTC

⚠ DANGER

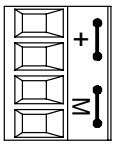
Risk of electric shock!

Only temperature sensors that meet the safety isolation specifications contained in EN 61800-5-1 may be connected to terminals "+Temp" and "-Temp".

If these instructions are not complied with, there is a risk of electric shock!

7.2.3.4 X524 Electronics power supply

Table 7- 6 X524 terminal block

	Terminal	Function	Technical specifications
	+	Electronics power supply	Voltage: 24 V (20.4 V – 28.8 V) Current consumption: Max. 0.35 A Maximum current via jumper in connector: 20 A
	+	Electronics power supply	
	M	Electronics ground	
	M	Electronics ground	
Max. connectable cross-section: 2.5 mm² Type: Screw terminal 2 (see Appendix)			

Note

The two "+" and "M" terminals are jumpered in the connector. This ensures that the supply voltage is looped through.

7.2.3.5 Meaning of LEDs on the Sensor Module Cabinet-Mounted SMC10

Table 7- 7 Sensor Module Cabinet-Mounted SMC10 – description of the LEDs

LED	Color	Status	Description, cause	Remedy
RDY READY	-	Off	Electronics power supply is missing or outside permissible tolerance range.	–
	Green	Continuous light	The component is ready for operation and cyclic DRIVE-CLiQ communication is taking place.	–
	Orange	Continuous light	DRIVE-CLiQ communication is being established.	–
	Red	Continuous light	At least one fault is present in this component. **Note:** The LED is activated regardless of whether the corresponding messages have been reconfigured.	Remedy and acknowledge fault
	Green/red	0.5 Hz flashing light	Firmware is being downloaded.	–
		2 Hz flashing light	Firmware download is complete. Wait for POWER ON	Carry out a POWER ON
	Green/orange or Red/orange	Flashing light	Component recognition via LED is activated (p0144). **Note:** Both options depend on the LED status when component recognition is activated via p0144 = 1.	–

Cause and rectification of faults

The following reference contains further information about the cause and rectification of faults:

References: /IH1/ SINAMICS S, Commissioning Manual

7.2.4 Dimension drawings

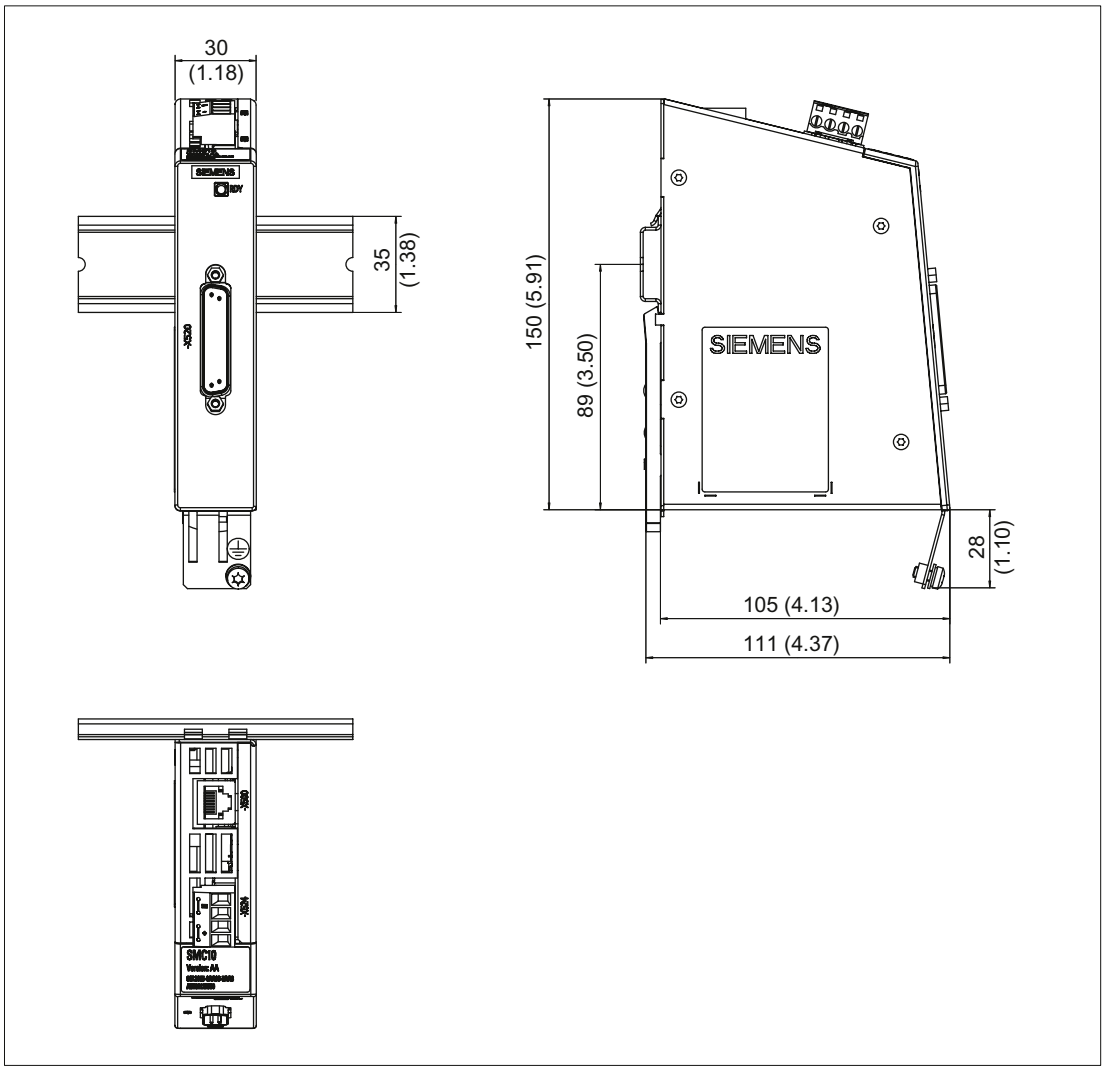


Figure 7-5 Dimension drawing of the Sensor Module Cabinet SMC10, 30 mm wide, all data in mm and (inches); order number: 6SL3055-0AA00-5AA3

7.2.5 Installation

Installation

1. Tilt the component backwards slightly and attach it to the DIN rail using the hook.
2. Push the component towards the DIN rail until you hear the mounting slide at the rear latch into position.
3. You can now move the component to the left or right along the DIN rail, until it reaches its final position.

Removal

1. The lug on the mounting slide first needs to be pushed down to unlock the slide from the DIN rail.
2. The component can now be tilted forwards and pulled up and off the DIN rail.

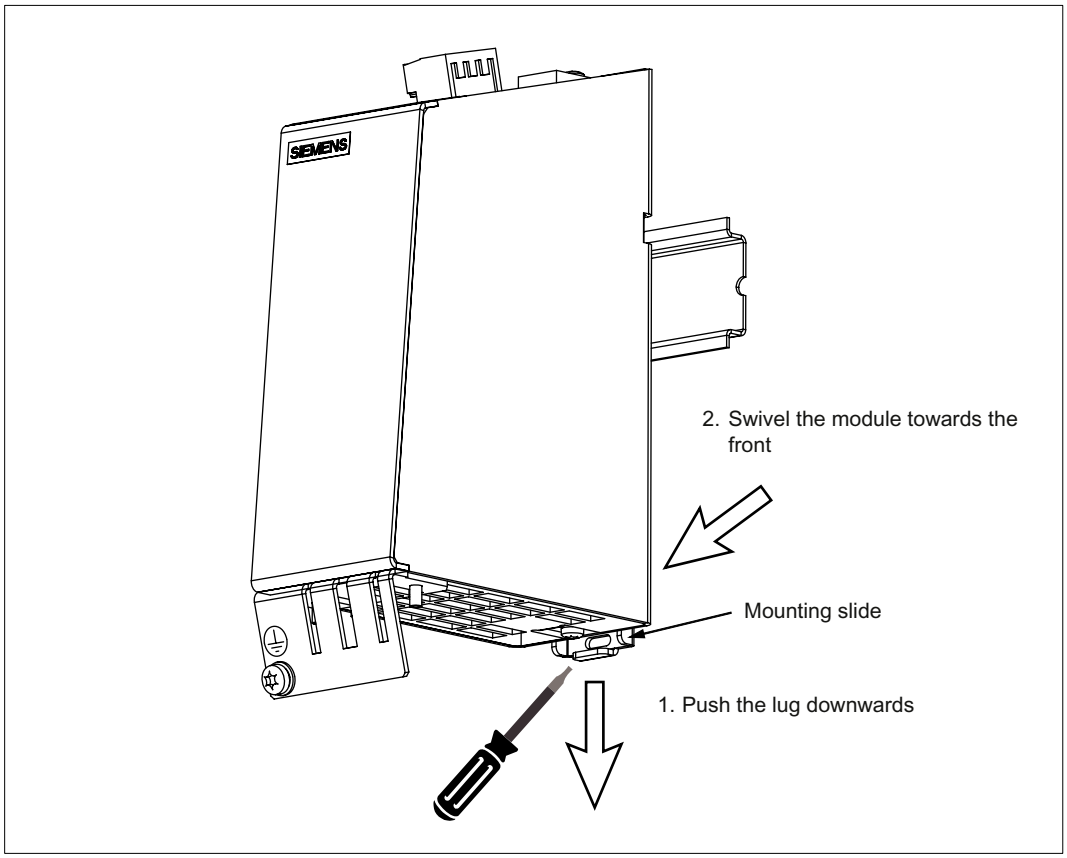


Figure 7-7 Removal of a component from a DIN rail

7.2.6 Technical data

Table 7- 8 Technical data

6SL3055-0AA00-5AAx	Unit	Value
Electronics power supply		
Voltage	V_{DC}	24 DC (20.4 – 28.8)
Current (without encoder system)	A_{DC}	≤ 0.20
Current (with encoder system)	A_{DC}	≤ 0.35
Power loss	W	≤ 10
Specification		
Transformation ratio of the resolver (ü)		0.5
Excitation voltage on the SMC10 when ü=0.5	V_{rms}	4.1
Amplitude monitoring threshold (secondary tracks) of the SMC10	V_{rms}	1
Excitation voltage (cannot be parameterized)	V_{rms}	4.1
Excitation frequency (synchronized to the current controller clock cycle)	kHz	5 to 16 (order number 6SL3055-0AA00-5AA3) 5 to 10 (order number 6SL3055-0AA00-5AA0)
PE/ground connection		On housing with M4/1.8 Nm screw
Max. encoder cable length	m	130
Weight	kg	0.45 (order number 6SL3055-0AA00-5AA3) 0.8 (order number 6SL3055-0AA00-5AA0)
Degree of protection		IP20 or IPXXB

Table 7- 9 Max. frequency that can be evaluated (speed)

Resolver		Max. speed resolver / motor		
Number of poles	Number of pole pairs	8kHz/125 µsec	4kHz/250 µsec	2kHz/500 µsec
2-pole	1	120,000 rpm	60,000 rpm	30,000 rpm
4-pole	2	60,000 rpm	30,000 rpm	15,000 rpm
6-pole	3	40,000 rpm	20,000 rpm	10,000 rpm
8-pole	4	30,000 rpm	15,000 rpm	7,500 rpm

The ratio between the ohmic resistance R and the inductance L (the primary winding of the resolver) determines whether the resolver can be evaluated with the SMC10. See the following diagram:

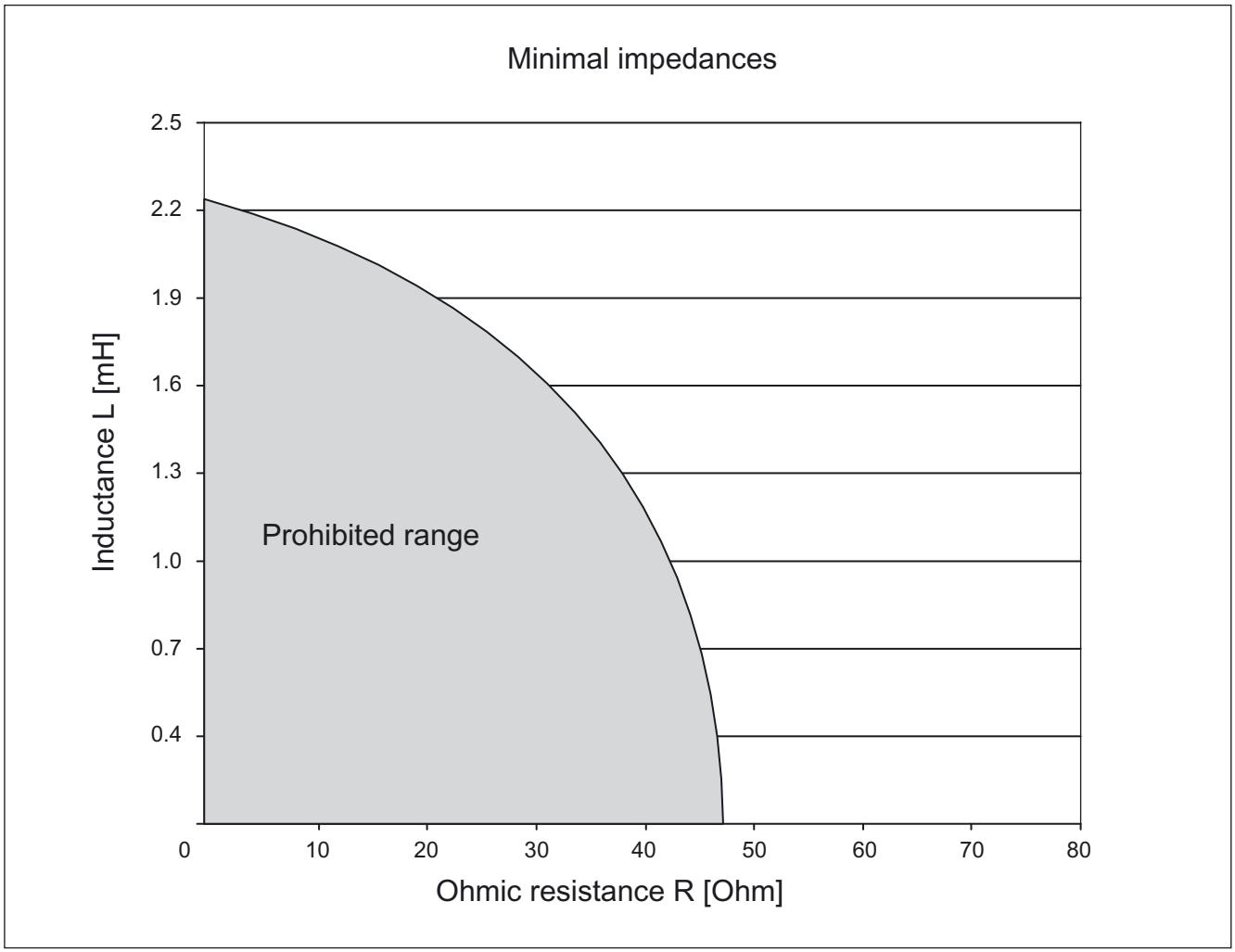


Figure 7-8 Connectable impedances with an excitation frequency f = 5000 Hz