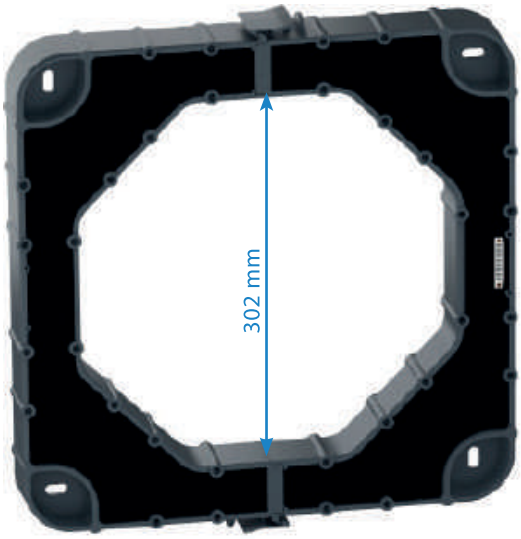
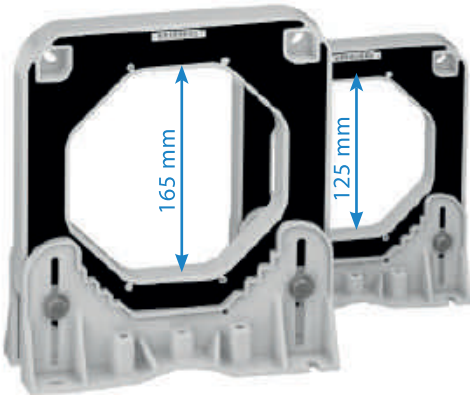
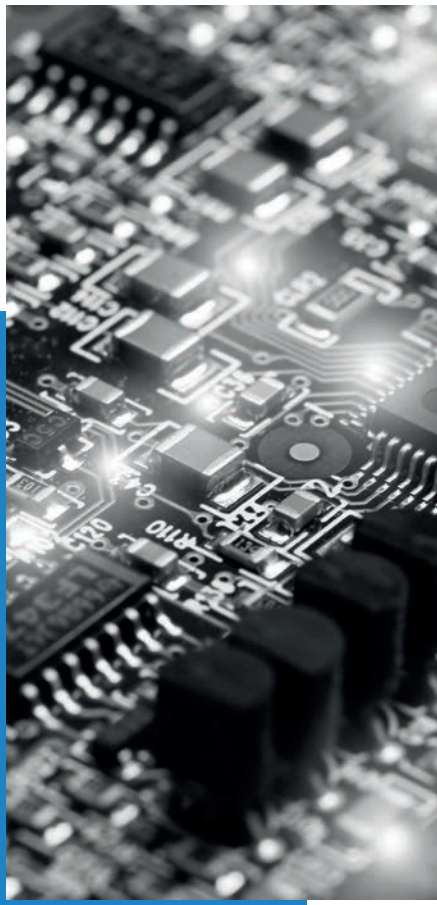
2







Designed to be integrated into every situation

The NCS125/165 sensor is entirely symmetrical. Its square shape and strategically positioned oblong holes make it easy to fasten in a choice of 2 positions.
As an accessory it comes with a side plate that can be fastened on either side of the sensor giving complete fitting flexibility.
It can be fitted both horizontally and vertically.
This flexibility means that NCS125/165 sensor simplifies the work of integrators.
Additionally the pair of side plate allows the NCS125/165 sensor to be fitted to one or several bars at the same time.
The NCS305 sensor has been designed to reduce installationcosts for new and retrofit systems. Using our innovative and robust opening, the clip-on system allows the NCS305 to be easily adapted to existing bus bars.
Thanks to its core free, patented technology, the NCS is more cost effective and faster to install than traditional Hall Effect sensor.
The NCS is a "flyweight" with only 5.5 kg (for the NCS305), this sensor offer the best rating/weight ratio.

100% electronic

The main advantage of the NCS range of sensors is that they are designed using a brand-new solution: 100% electronic technology. Unlike other currently available solutions such as shunts and CTs, this approach means that these sensors are very compact. Several patents were necessary to achieve this improvement.

Considerable energy savings

NCS sensors offer considerable savings in energy. Indeed only a few watts are required to power the NCS sensor in contrast to traditional sensors that require several hundred watts.
This reduction in wasted energy means there is no rise in temperature around the sensor.

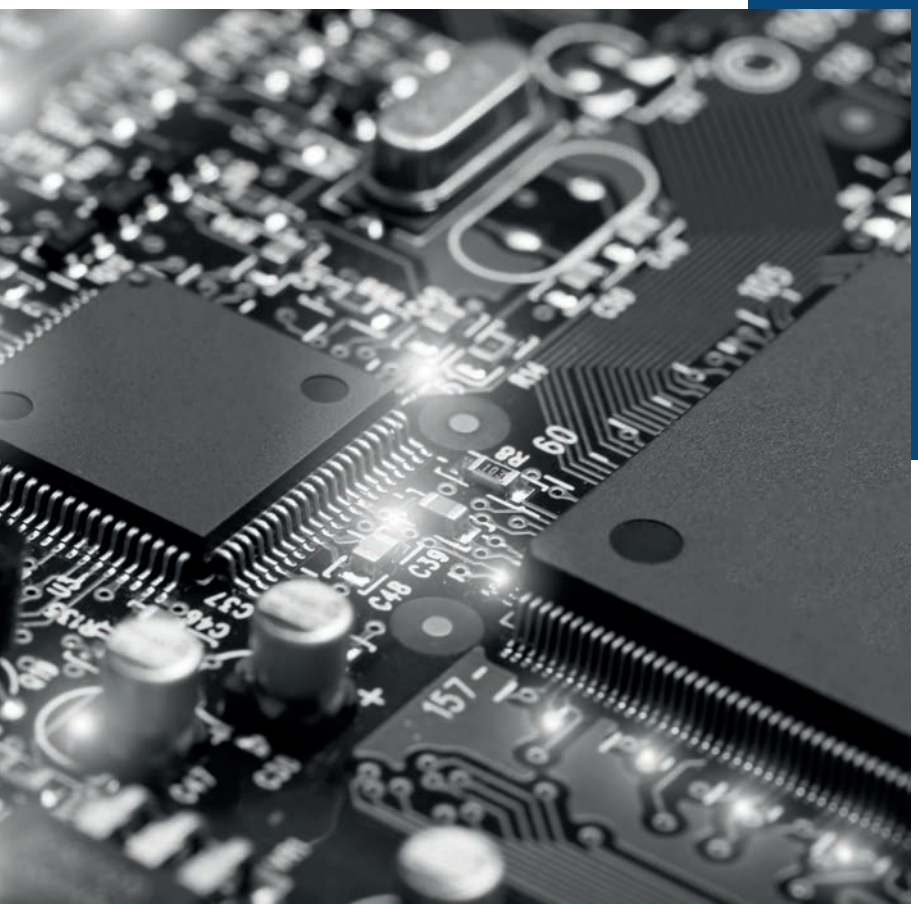
Quality that goes beyond standards

PETERCEM has been ISO 9001 certified for 25 years and our standard NCS sensors bear the CE label in Europe.
This ongoing striving after quality has always been the hallmark
of a company where excellence and safety are part of the culture, from design right through to production.
This culture is the result of continuous research to make technical progress and meet our customers' demands.

The chief selling-point of NCS sensors is their quality. Compliance of their high-tech electronic design with standard EN61010-1 is proof of their ability to comply with the most detailed constraint as well as major demands. The fact that each individual sensor is subjected to rigorous testing is proof of the
importance PETERCEM attribute to quality.

Environment-friendly

PETERCEM has long been concerned with the protection of the environment. This approach is particularly noticeable in the production of the NCS range in the reduction of the number of components, in the use of a low-energy manufacturing procedure and the use of recyclable packing. The products in use are also characterized by their reduced energy consumption.
Our NCS range is RoHS & REACH compliant.



The NCS meets all of your requirements

2

Frame mounting

These sensors are designed to be fixed by the case or by mounting brackets (page 36 to 39 for details).
They may be either vertically or horizontally mounted.
The secondary connection is made with a connector or cable.
For NCS sensors the primary conductor may be a cable, one or several bars.

NCS125-4 to NCS125-10

NCS125-4AF to NCS125-10AF
NCS125-4VF to NCS125-10VF

NCS165-4 to NCS165-20

NCS165-4AF to NCS165-20AF
NCS165-4VF to NCS165-20VF

Ordering details

Nominal primary current	Opening for the primary conductor	Secondary current I_{S1} at $\pm I_{PN}$	Secondary voltage V_{S1} at $\pm I_{PN}$	Supply voltage	Secondary connection	Type	Order code
A	mm	mA	V	V DC			
4000	125	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS125-4	1SBT200204R0001
4000	125	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS125-4AF	1SBT200204R0002
4000	125	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS125-4VF	1SBT200204R0102
4000	165	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS165-4	1SBT200604R0001
4000	165	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-4AF	1SBT200604R0002
4000	165	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-4VF	1SBT200604R0102
6000	125	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS125-6	1SBT200206R0001
6000	125	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS125-6AF	1SBT200206R0002
6000	125	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS125-6VF	1SBT200206R0102
6000	165	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS165-6	1SBT200606R0001
6000	165	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-6AF	1SBT200606R0002
6000	165	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-6VF	1SBT200606R0102
10000	125	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS125-10	1SBT200210R0001
10000	125	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS125-10AF	1SBT200210R0002
10000	125	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS125-10VF	1SBT200210R0102
10000	165	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS165-10	1SBT200610R0001
10000	165	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-10AF	1SBT200610R0002
10000	165	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-10VF	1SBT200610R0102
20000	165	±20	±10	±15 ... ±24	Straight connector 8 pin	NCS165-20	1SBT200620R0001
20000	165	±20	–	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-20AF	1SBT200620R0002
20000	165	–	±10	±15 ... ±24	Shielded cable 6 wires (2 m)	NCS165-20VF	1SBT200620R0102

NCS305 industry current sensors

6000 to 40000 A - Electronic technology

Frame mounting

These sensors are designed to be fixed by the case or by mounting brackets (page 40 for details).
They may be either vertically or horizontally mounted.
The secondary connection is made with a connector or cable.
For NCS sensors the primary conductor may be a cable, one or several bars.

NCS305-6 to NCS305-20

NCS305-6AF to NCS305-20AF
NCS305-6VF to NCS305-20VF

Ordering details

Nominal primary current	Opening for the primary conductor	Secondary current I_{S1} at $\pm I_{PN}$	Secondary voltage V_{S1} at $\pm I_{PN}$	Supply voltage	Secondary connection	Type	Order code
A	mm	mA	V	V DC			
6000	302	±20	±10	+15 ... +24 (±2%)	Straight connector 8 pin	NCS305-6	1SBT200306R0001
6000	302	±20	–	+15 ... +24 (±2%)	Shielded cable 6 wires (2 m)	NCS305-6AF	1SBT200306R0002
6000	302	–	±10	+15 ... +24 (±2%)	Shielded cable 6 wires (2 m)	NCS305-6VF	1SBT200306R0102
10000	302	±20	±10	+15 ... +24 (±2%)	Straight connector 8 pin	NCS305-10	1SBT200310R0001
10000	302	±20	–	+15 ... +24 (±2%)	Shielded cable 6 wires (2 m)	NCS305-10AF	1SBT200310R0002
10000	302	–	±10	+15 ... +24 (±2%)	Shielded cable 6 wires (2 m)	NCS305-10VF	1SBT200310R0102
20000	302	±20	±10	+15 ... +24 (±2%)	Straight connector 8 pin	NCS305-20	1SBT200320R0001
20000	302	±20	–	+15 ... +24 (±2%)	Shielded cable 6 wires (2 m)	NCS305-20AF	1SBT200320R0002
20000	302	–	±10	+15 ... +24 (±2%)	Shielded cable 6 wires (2 m)	NCS305-20VF	1SBT200320R0102

NCS125 industry current sensors

Technical data

Application

Sensors to measure DC, AC or pulsating currents with a galvanic insulation between primary and secondary circuits.

			ABB 8 pin connector	NCS125-4	–	–
			Output current shielded cable	–	NCS125-4AF	–
			Output voltage shielded cable	–	–	NCS125-4VF
Nominal primary current		A		4000	4000	4000
Measuring range		A		20000	20000	20000
Not measured overload	1 s/h	A peak		80000	80000	80000
Secondary current I_{S1} at I_{PN}		mA		±20	±20	–
Secondary current I_{S2} at I_{PMAX}		mA		±20	±20	–
Residual current I_{S1} 0	@ +25 °C	µA		≤±250	≤±250	–
Residual current I_{S2} 0	@ +25 °C	µA		≤±180	≤±180	–
Thermal drift coefficient (outputs I_{S1}, I_{S2})		µA/°C		≤±4	≤±4	–
Measuring resistance (outputs I_{S1}, I_{S2})		Ω		0 ... 350	0 ... 350	–
Secondary voltage V_{S1} at I_{PN}		V		±10	–	±10
Secondary voltage V_{S2} at I_{PMAX}		V		±10	–	±10
Residual voltage V_{S1} 0	@ +25 °C	mV		≤±100	–	≤±100
Residual voltage V_{S2} 0	@ +25 °C	mV		≤±50	–	≤±50
Thermal drift coefficient (outputs V_{S1}, V_{S2})		mV/°C		≤±2	–	≤±2
Measuring resistance (outputs V_{S1}, V_{S2})		Ω		10000 ... ∞	–	10000 ... ∞
Rms accuracy 50 Hz (without offset) (1) at I_{PN}	@ +25 °C	%		≤±1	≤±1	≤±1
Rms accuracy 50 Hz (without offset) (1) at I_{PMAX}	@ +25 °C	%		≤±3	≤±3	≤±3
Gain thermal drift	-25 ... +85 °C	%/°C		≤0.03	≤0.03	≤0.03
Gain thermal drift	-40 ... -25 °C	%/°C		≤0.2	≤0.2	≤0.2
Linearity (typical)		%		±0.5	±0.5	±0.5
Delay time (typical)		µs		≤3	≤3	≤3
di/dt correctly followed		A / µs		≤100	≤100	≤100
Bandwidth	@ -1 dB	kHz		0 ... 10	0 ... 10	0 ... 10
No load consumption current (I_{A0+})	@ -40 °C	mA		≤ 245	≤ 245	≤ 245
No load consumption current (I_{A0-})		mA		≤35	≤35	≤35
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV r.m.s.		5	5	5
Supply voltage	± 2%	V DC		±15 ... ±24	±15 ... ±24	±15 ... ±24
Mass		kg		1.1	1.4	1.4
Operating temperature		°C		-40 ... +85	-40 ... +85	-40 ... +85
Storage/startup temperature		°C		-50 ... +90	-50 ... +90	-50 ... +90

(1) Maximum current I_{PN} generated: 5000 A r.m.s.

General data

– Plastic case and insulating resin are self-extinguishing.
– Two fixing modes:
  - Horizontal or vertical with fixing holes in the case moulding.
  - By bar using the intermediate side plate kit (Refer to accessories and options on the following page).
– Max tightening torque for M6 screws (side plate mounting): 2 N.m
– **Direction of the current:**
  - Output current (I_{S1} and I_{S2}): A primary current flowing in the direction of the arrow results in a positive secondary output current on terminals I_{S1} and I_{S2} .
  - Output voltage (V_{S1} and V_{S2}): A primary current flowing in the direction of the arrow results in a positive secondary output voltage on terminals V_{S1} and V_{S2} .
– Burn-in test in accordance with FPTC 404304 cycle.

Primary connection

Hole for primary conductor.
The temperature of the primary conductor in contact with the case
must not exceed 100 °C.

Secondary connection

– Male straight 8 pin connector (integrated in the sensor)
A female straight 8 pin connector is provided as standard with each
product.
– Shielded cable 6 x 2000 mm (cross section 0.5 mm^2).

NCS125 industry current sensors

Technical data

		ABB 8 pin connector	NCS125-6	–	–	NCS125-10	–	–
		Output current shielded cable	–	NCS125-6AF	–	–	NCS125-10AF	–
		Output voltage shielded cable	–	–	NCS125-6VF	–	–	NCS125-10VF
Nominal primary current		A	6000	6000	6000	10000	10000	10000
Measuring range		A	30000	30000	30000	30000	30000	30000
Not measured overload	1 s/h	A peak	120000	120000	120000	200000	200000	200000
Secondary current I_{S1} at I_{PN}		mA	±20	±20	–	±20	±20	–
Secondary current I_{S2} at I_{PMAX}		mA	±20	±20	–	±20	±20	–
Residual current $I_{S1}0$	@ +25 °C	µA	≤±250	≤±250	–	≤±250	≤±250	–
Residual current $I_{S2}0$	@ +25 °C	µA	≤±180	≤±180	–	≤±180	≤±180	–
Thermal drift coefficient (outputs I_{S1}, I_{S2})		µA/°C	≤±4	≤±4	–	≤±4	≤±4	–
Measuring resistance (outputs I_{S1}, I_{S2})		Ω	0 ... 350	0 ... 350	–	0 ... 350	0 ... 350	–
Secondary voltage V_{S1} at I_{PN}		V	±10	–	±10	±10	–	±10
Secondary voltage V_{S2} at I_{PMAX}		V	±10	–	±10	±10	–	±10
Residual voltage $V_{S1}0$	@ +25 °C	mV	≤±100	–	≤±100	≤±100	–	≤±100
Residual voltage $V_{S2}0$	@ +25 °C	mV	≤±50	–	≤±50	≤±50	–	≤±50
Thermal drift coefficient (outputs V_{S1}, V_{S2})		mV/°C	≤±2	–	≤±2	≤±2	–	≤±2
Measuring resistance (outputs V_{S1}, V_{S2})		Ω	10000 ... ∞	–	10000 ... ∞	10000 ... ∞	–	10000 ... ∞
Rms accuracy 50 Hz (without offset) (1) at I_{PN}	@ +25 °C	%	≤±1	≤±1	≤±1	≤±1	≤±1	≤±1
Rms accuracy 50 Hz (without offset) (1) at I_{PMAX}	@ +25 °C	%	≤±3	≤±3	≤±3	≤±3	≤±3	≤±3
Gain thermal drift	-25 ... +85 °C	%/°C	≤0.03	≤0.03	≤0.03	≤0.03	≤0.03	≤0.03
Gain thermal drift	-40 ... -25 °C	%/°C	≤0.2	≤0.2	≤0.2	≤0.2	≤0.2	≤0.2
Linearity (typical)		%	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Delay time (typical)		µs	≤3	≤3	≤3	≤3	≤3	≤3
di/dt correctly followed		A / µs	≤100	≤100	≤100	≤100	≤100	≤100
Bandwidth	@ -1 dB	kHz	0 ... 10	0 ... 10	0 ... 10	0 ... 10	0 ... 10	0 ... 10
No load consumption current (I_{A0+})	@ -40 °C	mA	≤ 245	≤245	≤245	≤245	≤245	≤245
No load consumption current (I_{A0-})		mA	≤35	≤35	≤35	≤35	≤35	≤35
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV r.m.s.	5	5	5	5	5	5
Supply voltage	± 2%	V DC	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24
Mass		kg	1.1	1.4	1.4	1.1	1.4	1.4
Operating temperature		°C	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85
Storage/startup temperature		°C	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90

(1) Maximum current I_{PN} generated: 5000 A r.m.s.

Accessories and options

PETERCEM female straight 8 pin connector
PETERCEM order code: **1SBT200000R2003** including 10 lockable connectors

Side plates (or right angle brackets)
For installation of the side plates, please refer to the mounting instructions ref. **1SBC146005M1701-1** (NCS125) or the mounting instructions ref. **1SBC146004M1701-1** (NCS165)

Side plate kit NCS125:
PETERCEM order code: **1SBT200000R2002**

Conformity

EN 61010-1
EN 61000-6-2, EN 61000-6-4

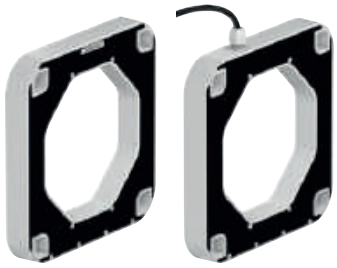
CE
RoHS

NCS165 industry current sensors

Technical data

Application

Sensors to measure DC, AC or pulsating currents with a galvanic insulation between primary and secondary circuits.



		8 pin connector	NCS165-4	–	–	NCS165-6	–	–
		Output current shielded cable	–	NCS165-4AF	–	–	NCS165-6AF	–
		Output voltage shielded cable	–	–	NCS165-4VF	–	–	NCS165-6VF
Nominal primary current		A	4000	4000	4000	6000	6000	6000
Measuring range		A	20000	20000	20000	30000	30000	30000
Not measured overload	1 s/h	A peak	80000	80000	80000	120000	120000	120000
Secondary current I_{S1} at I_{PN}		mA	±20	±20	–	±20	±20	–
Secondary current I_{S2} at I_{PMAX}		mA	±20	±20	–	±20	±20	–
Residual current $I_{S1}0$	@ +25 °C	µA	≤±250	≤±250	–	≤±250	≤±250	–
Residual current $I_{S2}0$	@ +25 °C	µA	≤±180	≤±180	–	≤±180	≤±180	–
Thermal drift coefficient (outputs I_{S1}, I_{S2})		µA/°C	≤±4	≤±4	–	≤±4	≤±4	–
Measuring resistance (outputs I_{S1}, I_{S2})		Ω	0 ... 350	0 ... 350	–	0 ... 350	0 ... 350	–
Secondary voltage V_{S1} at I_{PN}		V	±10	–	±10	±10	–	±10
Secondary voltage V_{S2} at I_{PMAX}		V	±10	–	±10	±10	–	±10
Residual voltage $V_{S1}0$	@ +25 °C	mV	≤±100	–	≤±100	≤±100	–	≤±100
Residual voltage $V_{S2}0$	@ +25 °C	mV	≤±50	–	≤±50	≤±50	–	≤±50
Thermal drift coefficient (outputs V_{S1}, V_{S2})		mV/°C	≤±2	–	≤±2	≤±2	–	≤±2
Measuring resistance (outputs V_{S1}, V_{S2})		Ω	10000 ... ∞	–	10000 ... ∞	10000 ... ∞	–	10000 ... ∞
Rms accuracy 50 Hz (without offset) (1) at I_{PN}	@ +25 °C	%	≤±1	≤±1	≤±1	≤±1	≤±1	≤±1
Rms accuracy 50 Hz (without offset) (1) at I_{PMAX}	@ +25 °C	%	≤±3	≤±3	≤±3	≤±3	≤±3	≤±3
Gain thermal drift	-25 ... +85 °C	%/°C	≤0.03	≤0.03	≤0.03	≤0.03	≤0.03	≤0.03
Gain thermal drift	-40 ... -25 °C	%/°C	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
Linearity (typical)		%	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Delay time (typical)		µs	≤3	≤3	≤3	≤3	≤3	≤3
di/dt correctly followed		A / µs	≤100	≤100	≤100	≤100	≤100	≤100
Bandwidth	@ -1 dB	kHz	0 ... 10	0 ... 10	0 ... 10	0 ... 10	0 ... 10	0 ... 10
No load consumption current (I_{A0+})	@ -40 °C	mA	≤210	≤210	≤210	≤210	≤210	≤210
No load consumption current (I_{A0-})		mA	≤35	≤35	≤35	≤35	≤35	≤35
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV r.m.s.	5	5	5	5	5	5
Supply voltage	± 2%	V DC	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24
Mass		kg	1.4	1.7	1.7	1.4	1.7	1.7
Operating temperature		°C	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85
Storage/startup temperature		°C	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90

(1) Maximum current I generated: 5000 A r.m.s.

General data

– Plastic case and insulating resin are self-extinguishing
– Two fixing modes:
  - Horizontal or vertical with fixing holes in the case moulding.
  - By bar using the intermediate side plate kit (Refer to Accessories and options on the following page).
– Max tightening torque for M6 screws (side plate mounting): 2 N.m
– **Direction of the current:**
  - Output current (I_{S1} and I_{S2}): A primary current flowing in the direction of the arrow results in a positive secondary output current on terminals I_{S1} and I_{S2}.
  - Output voltage (V_{S1} and V_{S2}): A primary current flowing in the direction of the arrow results in a positive secondary output voltage on terminals V_{S1} and V_{S2}.
– Burn-in test in accordance with FPTC 404304 cycle

Primary connection

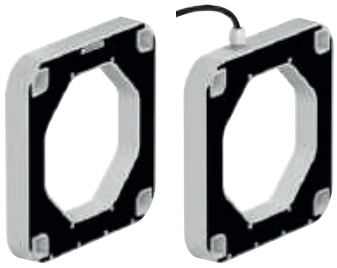
Hole for primary conductor.
The temperature of the primary conductor in contact with the case
must not exceed 100 °C.

Secondary connection

– Male straight 8 pin connector (integrated in the sensor)
A female straight 8 pin connector is provided as standard with each
product
– Shielded cable 6 x 2000 mm (cross section 0.5 mm^2).

NCS165 industry current sensors

Technical data



		8 pin connector	NCS165-10	–	–	NCS165-20	–	–
		Output current shielded cable	–	NCS165-10AF	–	–	NCS165-20AF	–
		Output voltage shielded cable	–	–	NCS165-10VF	–	–	NCS165-20VF
Nominal primary current		A	10000	10000	10000	20000	20000	20000
Measuring range		A	30000	30000	30000	40000	40000	40000
Not measured overload	1 s/h	A peak	200000	200000	200000	200000	200000	200000
Secondary current I_{S1} at I_{PN}		mA	±20	±20	–	±20	±20	–
Secondary current I_{S2} at I_{PMAX}		mA	±20	±20	–	±20	±20	–
Residual current $I_{S1}0$	@ +25 °C	µA	≤±250	≤±250	–	≤±250	≤±250	–
Residual current $I_{S2}0$	@ +25 °C	µA	≤±180	≤±180	–	≤±180	≤±180	–
Thermal drift coefficient (outputs I_{S1}, I_{S2})		µA/°C	≤±4	≤±4	–	≤±4	≤±4	–
Measuring resistance (outputs I_{S1}, I_{S2})		Ω	0 ... 350	0 ... 350	–	0 ... 350	0 ... 350	–
Secondary voltage V_{S1} at I_{PN}		V	±10	–	±10	±10	–	±10
Secondary voltage V_{S2} at I_{PMAX}		V	±10	–	±10	±10	–	±10
Residual voltage $V_{S1}0$	@ +25 °C	mV	≤±100	–	≤±100	≤±100	–	≤±100
Residual voltage $V_{S2}0$	@ +25 °C	mV	≤±50	–	≤±50	≤±50	–	≤±50
Thermal drift coefficient (outputs V_{S1}, V_{S2})		mV/°C	≤±2	–	≤±2	≤±2	–	≤±2
Measuring resistance (outputs V_{S1}, V_{S2})		Ω	10000 ... ∞	–	10000 ... ∞	10000 ... ∞	–	10000 ... ∞
Rms accuracy 50 Hz (without offset) (1) at I_{PN}	@ +25 °C	%	≤±1	≤±1	≤±1	≤±1	≤±1	≤±1
Rms accuracy 50 Hz (without offset) (1) at I_{PMAX}	@ +25 °C	%	≤±3	≤±3	≤±3	≤±3	≤±3	≤±3
Gain thermal drift	-25 ... +85 °C	%/°C	≤0.03	≤0.03	≤0.03	≤0.03	≤0.03	≤0.03
Gain thermal drift	-40 ... -25 °C	%/°C	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
Linearity (typical)		%	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Delay time (typical)		µs	≤3	≤3	≤3	≤3	≤3	≤3
di/dt correctly followed		A / µs	≤100	≤100	≤100	≤100	≤100	≤100
Bandwidth	@ -1 dB	kHz	0 ... 10	0 ... 10	0 ... 10	0 ... 10	0 ... 10	0 ... 10
No load consumption current (I_{A0+})	@ -40 °C	mA	≤210	≤210	≤210	≤210	≤210	≤210
No load consumption current (I_{A0-})		mA	≤35	≤35	≤35	≤35	≤35	≤35
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV r.m.s.	5	5	5	5	5	5
Supply voltage	± 2%	V DC	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24
Mass		kg	1.4	1.7	1.7	1.4	1.7	1.7
Operating temperature		°C	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85
Storage/startup temperature		°C	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90

(1) Maximum current I_{PN} generated: 5000 A r.m.s.

Accessories and options

PETERCEM female straight 8 pin connector

PETERCEM order code : **1SBT200000R2003** includes 10 lockable connectors

Side plates (or right angle brackets)

For installation of the side plates, please refer to the mounting instructions ref. **1SBC146004M1701-1**

Side plate kit NCS165:
PETERCEM order code: **1SBT200000R2001**

Conformity

EN 61010-1
EN 61000-6-2, EN 61000-6-4

CE

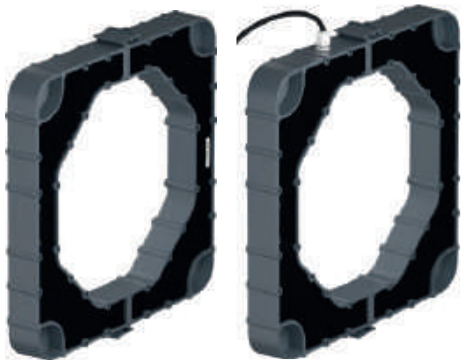
RoHS

NCS305 industry current sensors

Technical data

Application

Sensors to measure DC, AC or pulsating currents with a galvanic insulation between primary and secondary circuits.



		8 pin connector	NCS305-6	–	–	NCS305-10
		Output current shielded cable	–	NCS305-6AF	–	–
		Output voltage shielded cable	–	–	NCS305-6VF	–
Nominal primary current		A	6000	6000	6000	10000
Measuring range		A	20000	20000	20000	30000
Not measured overload	1 s/h	A peak	80000	80000	80000	120000
Secondary current I_{S1} at I_{PN}		mA	±20	±20	–	±20
Secondary current I_{S2} at I_{PMAX}		mA	±20	±20	–	±20
Residual current $I_{S1}0$	@ +25 °C	µA	≤ ±250	≤ ±250	–	≤ ±250
Residual current $I_{S2}0$	@ +25 °C	µA	≤ ±180	≤ ±180	–	≤ ±180
Thermal drift coefficient (outputs I_{S1}, I_{S2})		µA/°C	≤ ±4	≤ ±4	–	≤ ±4
Measuring resistance (outputs I_{S1}, I_{S2})		Ω	0 … 350	0 … 350	–	0 … 350
Secondary voltage V_{S1} at I_{PN}		V	±10	–	±10	±10
Secondary voltage V_{S2} at I_{PMAX}		V	±10	–	±10	±10
Residual voltage $V_{S1}0$	@ +25 °C	mV	≤ ±100	–	≤ ±100	≤ ±100
Residual voltage $V_{S2}0$	@ +25 °C	mV	≤ ±50	–	≤ ±50	≤ ±50
Thermal drift coefficient (outputs V_{S1}, V_{S2})		mV/°C	≤ ±2	–	≤ ±2	≤ ±2
Measuring resistance (outputs V_{S1}, V_{S2})		Ω	10000 … ∞	–	10000 … ∞	10000 … ∞
Rms accuracy 50 Hz (without offset) (1) at I_{PN}	@ +25 °C	%	≤ ±1	≤ ±1	≤ ±1	≤ ±1
Rms accuracy 50 Hz (without offset) (1) at I_{PMAX}	@ +25 °C	%	≤ ±3	≤ ±3	≤ ±3	≤ ±3
Gain thermal drift	-20 … +85 °C	%/°C	≤ ±0.01	≤ ±0.01	≤ ±0.01	≤ ±0.01
Gain thermal drift	-40 … -20 °C	%/°C	≤ ±0.04	≤ ±0.04	≤ ±0.04	≤ ±0.04
Linearity (typical)		%	±0.5	±0.5	±0.5	±0.5
Delay time (typical)		µs	≤ 10	≤ 10	≤ 10	≤ 10
di/dt correctly followed		A / µs	≤ 100	≤ 100	≤ 100	≤ 100
Bandwidth	@ -1 dB	kHz	0 … 10	0 … 10	0 … 10	0 … 10
No load consumption current (I_{A0+})	@ -40 °C	mA	≤ 400	≤ 400	≤ 400	≤ 400
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV r.m.s.	5	5	5	5
Supply voltage	± 2%	V DC	+15 … +24	+15 … +24	+15 … +24	+15 … +24
Mass		kg	5.5	5.8	5.8	5.5
Operating temperature		°C	-40 … +85	-40 … +85	-40 … +85	-40 … +85
Storage/startup temperature		°C	-50 … +90	-50 … +90	-50 … +90	-50 … +90

(1) Maximum current I_{PN} generated: 5000 A r.m.s.

General data

– Plastic case and insulating resin are self-extinguishing.
– Clip on mounting mode
– Two fixing modes:
– Horizontal with fixing holes in the case moulding.
– By bar using the intermediate side plate kit (Refer to accessories and options on the following page).
– M ax tightening torque for M6.3 screws (side plate mounting): 4.5 N.m
– Direction of the current:
  - Output current (IS1 and IS2): A primary current flowing in the direction of the arrow results in a positive secondary output current on terminals IS1 and IS2.
  - Output voltage (VS1 and VS2): A primary current flowing in the direction of the arrow results in a positive secondary output voltage on terminals VS1 and VS2.
– Burn-in test in accordance with FPTC 404304 cycle.

Primary connection

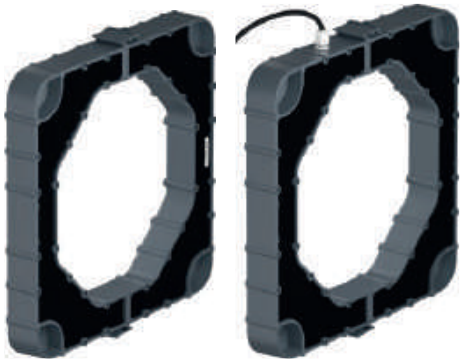
Hole for primary conductor.
The temperature of the primary conductor in contact with the case must not exceed 100 °C.

Secondary connection

– Male straight 8 pin connector (integrated in the sensor)
A female straight 8 pin connector is provided as standard with each product.
– Shielded cable 6 x 2000 mm (cross section 0.5 mm^2).

NCS305 industry current sensors

Technical data



		8 pin connector	–	–	NCS305-20	–	–
		Output current shielded cable	NCS305-10AF	–	–	NCS305-20AF	–
		Output voltage shielded cable	–	NCS305-10VF	–	–	NCS305-20VF
Nominal primary current		A	10000	10000	20000	20000	20000
Measuring range		A	30000	30000	40000	40000	40000
Not measured overload	1 s/h	A peak	120000	120000	200000	200000	200000
Secondary current I_{S1} at I_{PN}		mA	±20	–	±20	±20	–
Secondary current I_{S2} at I_{PMAX}		mA	±20	–	±20	±20	–
Residual current $I_{S1}0$	@ +25 °C	µA	≤ ±250	–	≤ ±250	≤ ±250	–
Residual current $I_{S2}0$	@ +25 °C	µA	≤ ±180	–	≤ ±180	≤ ±180	–
Thermal drift coefficient (outputs I_{S1}, I_{S2})		µA/°C	≤ ±4	–	≤ ±4	≤ ±4	–
Measuring resistance (outputs I_{S1}, I_{S2})		Ω	0 … 350	–	0 … 350	0 … 350	–
Secondary voltage V_{S1} at I_{PN}		V	–	±10	±10	–	±10
Secondary voltage V_{S2} at I_{PMAX}		V	–	±10	±10	–	±10
Residual voltage $V_{S1}0$	@ +25 °C	mV	–	≤ ±100	≤ ±100	–	≤ ±100
Residual voltage $V_{S2}0$	@ +25 °C	mV	–	≤ ±50	≤ ±50	–	≤ ±50
Thermal drift coefficient (outputs V_{S1}, V_{S2})		mV/°C	–	≤ ±2	≤ ±2	–	≤ ±2
Measuring resistance (outputs V_{S1}, V_{S2})		Ω	–	10000 … ∞	10000 … ∞	–	10000 … ∞
Rms accuracy 50 Hz (without offset) (1) at I_{PN}	@ +25 °C	%	≤ ±1	≤ ±1	≤ ±1	≤ ±1	≤ ±1
Rms accuracy 50 Hz (without offset) (1) at I_{PMAX}	@ +25 °C	%	≤ ±3	≤ ±3	≤ ±3	≤ ±3	≤ ±3
Gain thermal drift	-20 … +85 °C	%/°C	≤ ±0.01	≤ ±0.01	≤ ±0.01	≤ ±0.01	≤ ±0.01
Gain thermal drift	-40 … -20 °C	%/°C	≤ ±0.04	≤ ±0.04	≤ ±0.04	≤ ±0.04	≤ ±0.04
Linearity (typical)		%	±0.5	±0.5	±0.5	±0.5	±0.5
Delay time (typical)		µs	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10
di/dt correctly followed		A / µs	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
Bandwidth	@ -1 dB	kHz	0 … 10	0 … 10	0 … 10	0 … 10	0 … 10
No load consumption current (I_{A0+})	@ -40 °C	mA	≤ 400	≤ 400	≤ 400	≤ 400	≤ 400
Dielectric strength Primary/Secondary	50 Hz, 1 min	kV r.m.s.	5	5	5	5	5
Supply voltage	± 2%	V DC	+15 … +24	+15 … +24	+15 … +24	+15 … +24	+15 … +24
Mass		kg	5.8	5.8	5.5	5.8	5.8
Operating temperature		°C	-40 … +85	-40 … +85	-40 … +85	-40 … +85	-40 … +85
Storage/startup temperature		°C	-50 … +90	-50 … +90	-50 … +90	-50 … +90	-50 … +90

(1) Maximum current I_{PN} generated: 5000 A r.m.s.

Accessories and options

PETERCEM female straight 8 pin connector
PETERCEM order code: **1SBT200000R2003** including 10 lockable connectors

Side plates
For installation of the side plates, please refer to the mounting instructions ref. **1SBC146011M1701**

Side plate kit NCS305:
PETERCEM order code: **1SBT200000R2005**

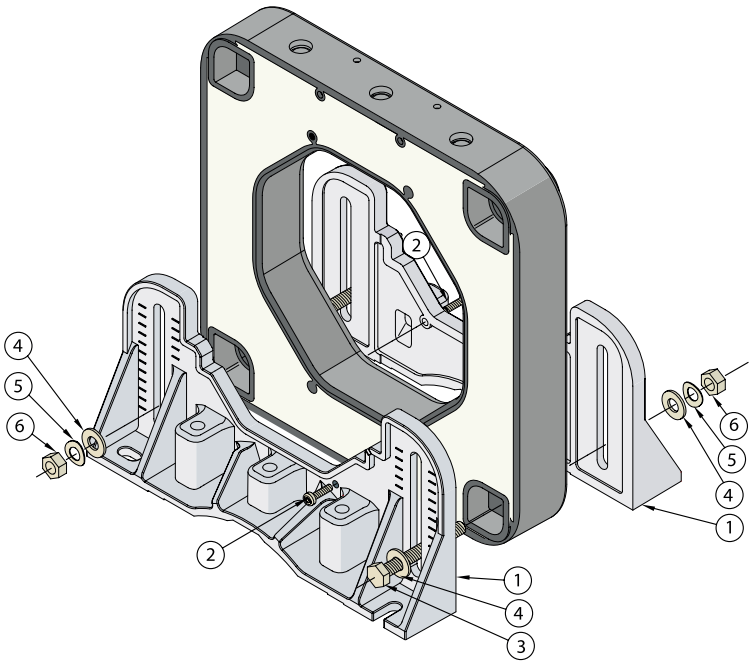
Conformity

EN 61010-1
EN 61000-6-2, EN 61000-6-4

CE

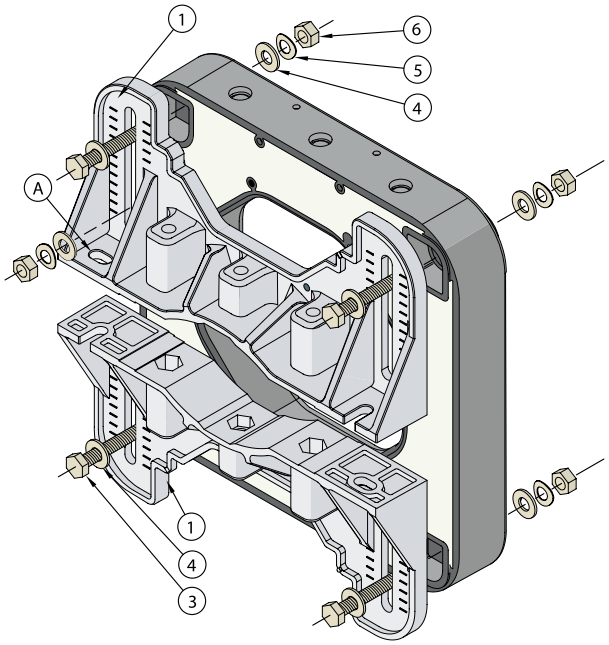
RoHS

Right angle brackets mounting on NCS125 sensors



1 - Side plate: x2
2 - Standard positioning screw: x2 (3x12)
3 - Side plate screw M6: x2 (6x50)
4 - Flat washer: x4
5 - Spring washer: x2
6 - Locknut: x2
7 - Not used:
- Side plate screw M6: x4 (6x30)
- Flat washer: x4
- Spring washer: x2
- Locknut: x2

Right angle brackets mounting on NCS125 sensors

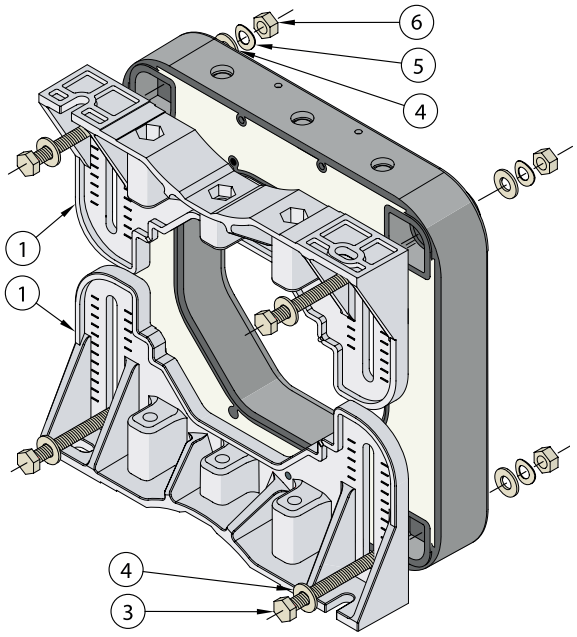


1 - Side plate: x2
3 - Side plate screw M6: x4 (6x30)
4 - Flat washer: x8
5 - Spring washer: x4
6 - Locknut: x4
7 - Not used:
- Side plate screw M6: x2 (6x50)
- Standard positioning screw: x2 (3x12)

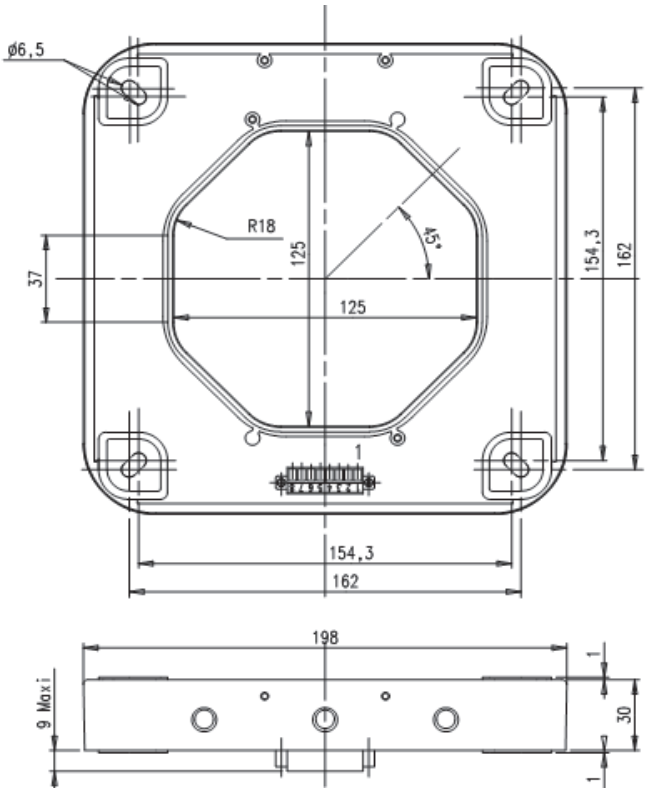
A - The screws for clamping the side plates to the bar (or cable) are not supplied

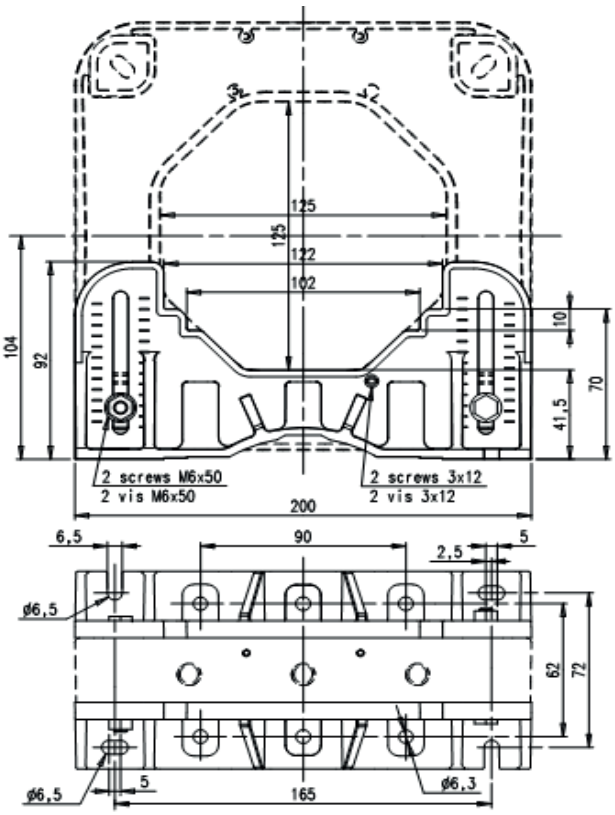
NCS125 industry current sensors

Right angle brackets mounting on NCS125 sensors



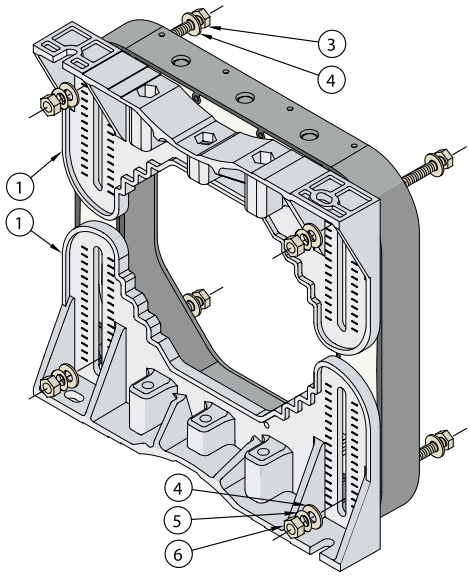
1 - Side plate: x2
3 - Side plate screw M6: x2 (6x30)
4 - Flat washer: x8
5 - Spring washer: x4
6 - Locknut: x4
7 - Not used:
- Side plate screw M6: x4 (6x30)





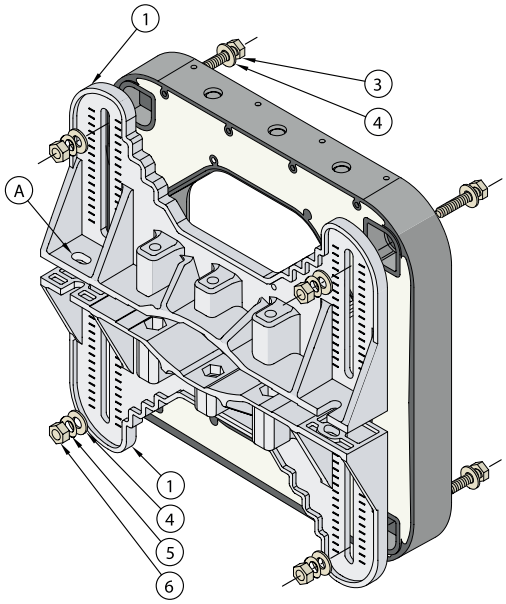
NCS165 industry current sensors

Right angle brackets mounting on NCS165 sensors



1 - Side plate: x2
3 - Side plate screw M6: x4 (6x30)
4 - Flat washer: x8
5 - Spring washer: x4
6 - Locknut: x4
7 - Not used:
- Side plate screw M6: x2 (6x30)
- Standard positioning screw: x2 (3x12)

Right angle brackets mounting on NCS165 sensors

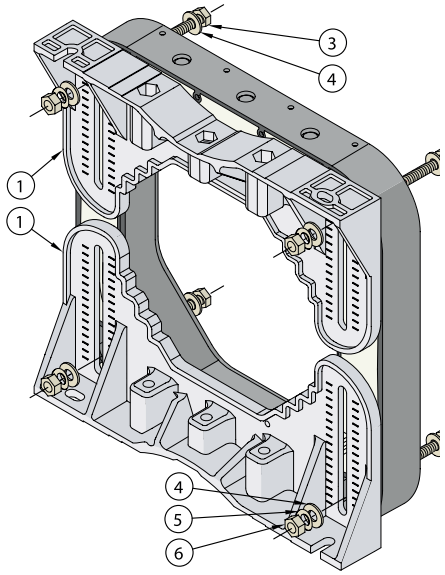


1 - Side plate: x2
3 - Side plate screw M6: x4 (6x30)
4 - Flat washer: x8
5 - Spring washer: x4
6 - Locknut: x4
7 - Not used:
- Side plate screw M6: x2 (6x50)
- Standard positioning screw: x2 (3x12)

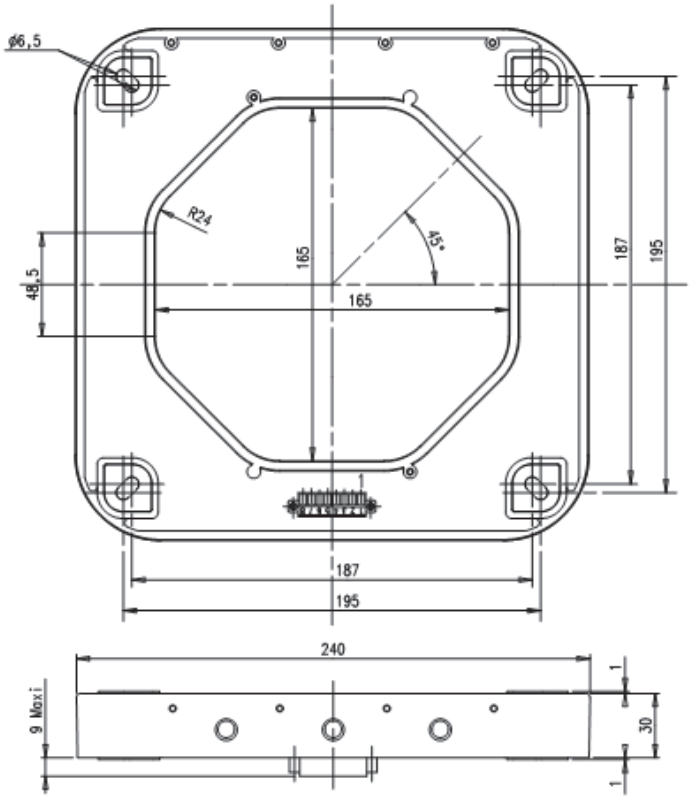
A - The screws for clamping the side plates to the bar (or cable) are not supplied

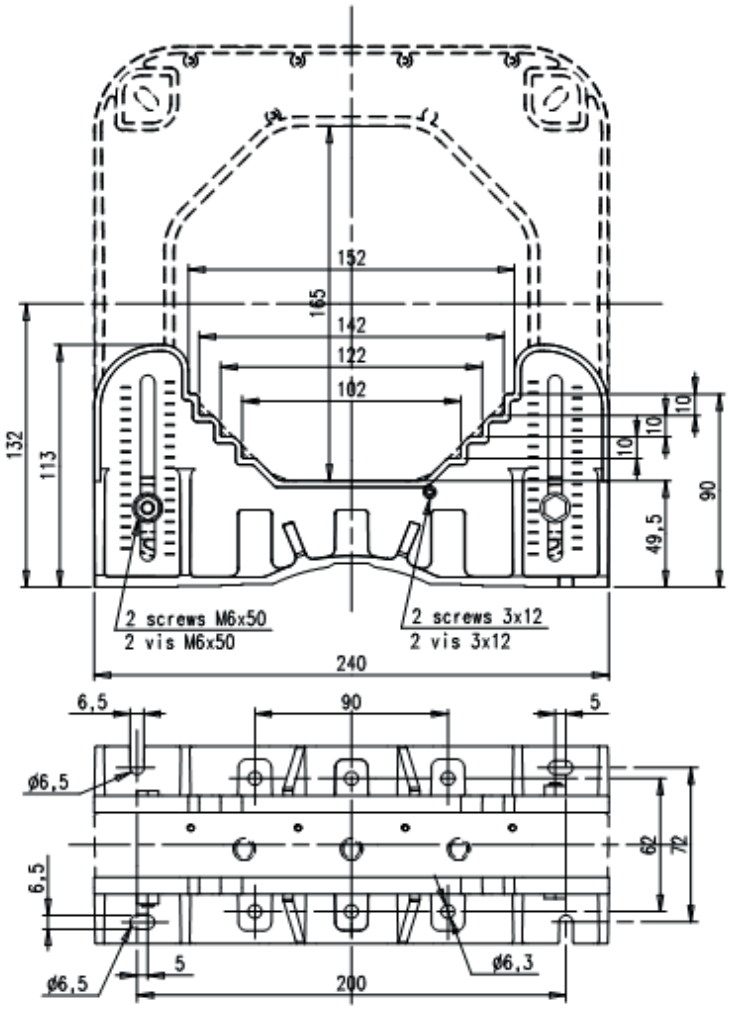
NCS165 industry current sensors

Right angle brackets mounting on NCS165 sensors



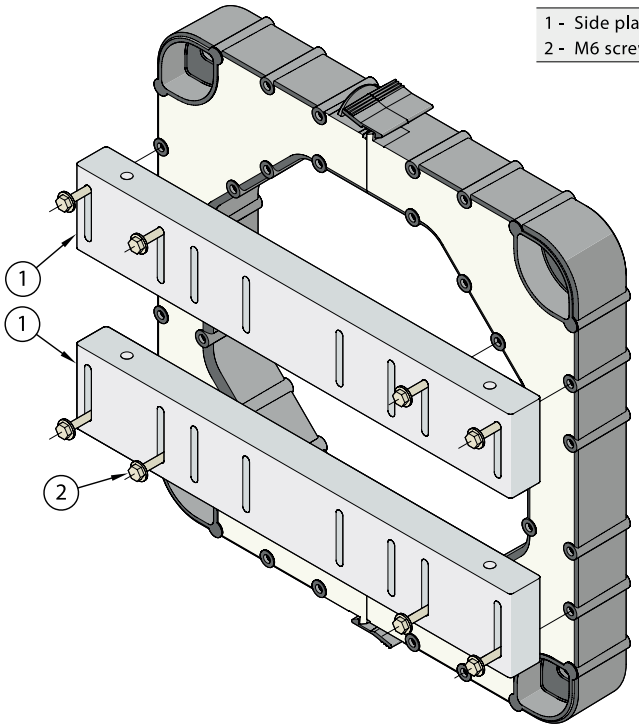
1 - Side plate: x2
3 - Side plate screw M6: x4 (6x30)
4 - Flat washer: x8
5 - Spring washer: x4
6 - Locknut: x4
7 - Not used:
- Side plate screw M6: x2 (6x30)
- Standard positioning screw: x2 (3x12)



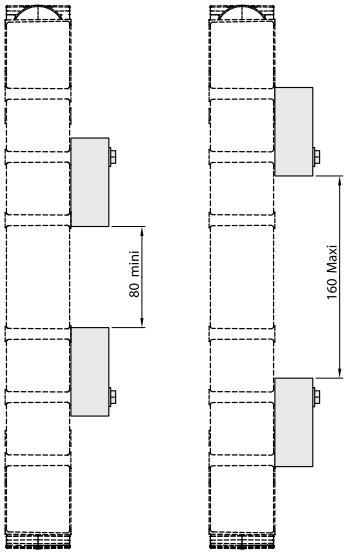


NCS305 industry current sensors

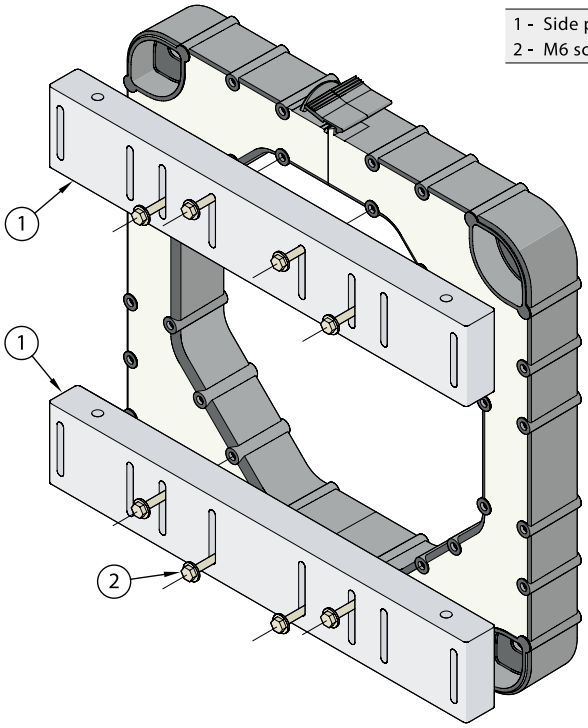
Side plate mounting on NCS305 sensors



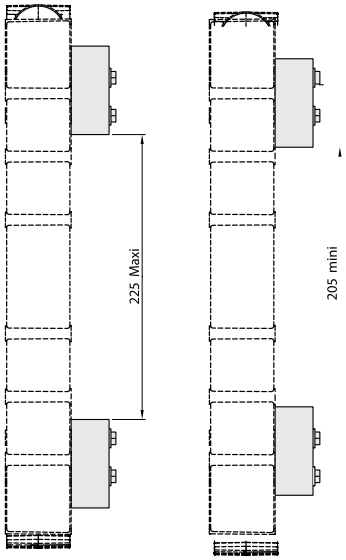
1 - Side plate: x2
2 - M6 screw: x8 (6.3x50)



Side plate mounting on NCS305 sensors



1 - Side plate: x2
2 - M6 screw: x8 (6.3x50)



Side plate mounting on NCS305 sensors