

Current sensors CS range



ABB

ABB current sensor

A current sensor is a component for measuring current that supplies a signal proportional to the current to be measured. This high-precision signal is the essential information that ensures the optimal control of the system, and the protection of both the equipment and your staff.

Incomparable modularity

CS current sensors come with a complete range of options and accessories and a wealth of preset variants that have now become standard. As well as being renowned for their incomparable modularity, CS sensors give their users the edge because they are compact and easy to fit. They also offer a number of connection options, their simplicity and performance characteristics are unrivalled as are their magnetic immunity and mechanical resistance. They meet all the exacting demands of sectors as varied as railways, the mining industry and control in difficult environments such as ozone generators.

CS current sensors and VS voltage sensors together constitute an offer the railway industry cannot afford to ignore.

ENGINEERING

You simply can't get any smaller!

ABB current sensors contain everything needed to do the job - you don't need anything else. By integrating the philosophy of reduced size into its CS sensors, ABB have brought miniaturization to a point of perfection. This miniaturization also gives great flexibility of installation as well as the best size and performance for money on the market. Small really is beautiful.



113 mm

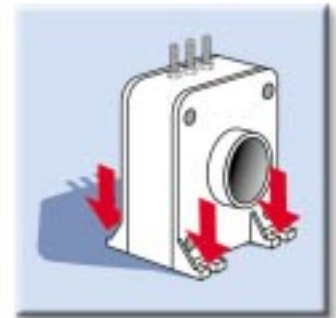
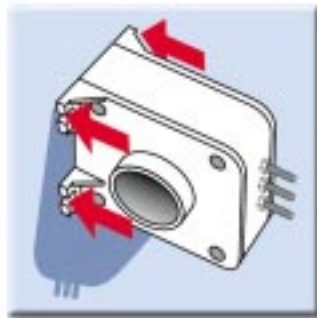
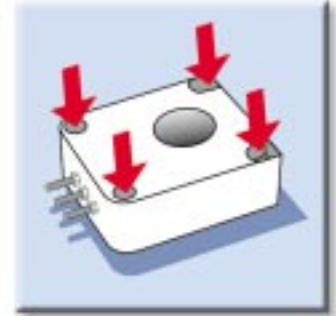
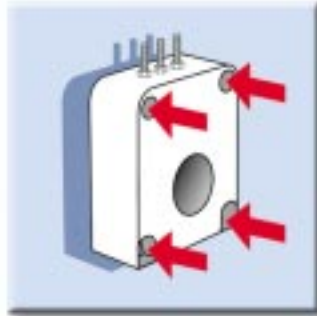
44 mm

81 mm

IN PRACTICE

The efficient way

Once again ABB have shown that they put all their know-how and talent for innovation into improving efficiency. Whether fitted horizontally or vertically, ABB sensors fit perfectly into your system configurations and the space available. Installation is no longer a problem; in fact inserting sensors is child's play. This choice of fittings is a first in the sensors market. This ability to stay a length ahead makes ABB stand out from their competitors.



**The best way up is
the way you want**

THE DIFFERENCE

Unbeatable reliability

Designed using the 6 sigma approach, the CS range is a model of reliability. The choice and number of optimized components, traceability of subassemblies, individually production tests... nothing is left to chance to guarantee your peace of mind.



Perfect efficiency in every environment

The CS range has been designed for applications in difficult environments such as on-board railway equipment (power converters, auxiliary converters for heating, ventilation and air conditioning) and the mining industry. Their robust design and excellent performances (e.g. operating range between -40° and $+85^{\circ}\text{C}$) make CS current sensors ideal for use in other very demanding applications (marine, wind-power, ozone generators, etc.)



Quality that goes beyond standards

ABB have been ISO 9001 certified since 1993 and our sensors bear the CE label. 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.

SAFETY **CS** sensors meet the various safety standards in force such as EN 50124-1 for electrical insulation and NFF 16101-NFF 16102 for fire-smoke resistance.



QUALITY The chief selling-point of CS sensors is their quality. Compliance with EN 50121-X for electromagnetic disturbance and EN 50155 for their high-tech electronic design is proof of their ability to comply with the most detailed constraints as well as major demands. The fact that each individual sensor is subjected to rigorous testing such as sensor burn-in is proof of the importance ABB attribute to quality.

ENVIRONMENT-FRIENDLY **ABB** have long been concerned with the protection of the environment, as proved by the ISO 14001 certification they received in 1998. This environmental approach is particularly noticeable in production of the CS 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.

Incomparable protection against magnetic fields

CS sensors are conceived, designed and renowned for their unrivalled immunity to ambient magnetic fields. Although they are in continuous proximity of powerful currents capable of distorting their measurements, this does not, in fact, occur. Their accuracy is rock-solid and once set to measure a particular current, that is what they measure - that and nothing else.

**BECAUSE YOU WANT RELIABILITY,
WE DESIGN FOR LONGEVITY**



TECHNICAL DATA

		Horizontal mounting	CS300BR	CS503BR	CS500BR	CS1000BR	CS2000BR*
		Vertical mounting	CS300BRV	CS503BRV	CS500BRV	CS1000BRV	CS2000BRV*
		Horizontal + Screen	CS300BRE	CS503BRE	CS500BRE	CS1000BRE	CS2000BRE*
		Vertical + Screen	CS300BRVE	CS503BRVE	CS500BRVE	CS1000BRVE	CS2000BRV
Nominal primary current		A r.m.s.	300	500	500	1000	2000
Measuring range	@ ±24V (±5%)	A peak	±600	±750	±1000	±2000	±3000
Not measurable overload	10ms/hour	A peak	3000	5000	5000	10000	20000
Max. measuring resistance	@ I _p max & ±24V (±5%)	Ω	40	6	37	4	5
Min. measuring resistance	@ I _{PN} & ±24V (±5%)	Ω	32	0	0	0	0
Turn number			2000	3500	5000	5000	5000
Secondary current at I _{PN}		mA	150	142.86	100	200	400
Accuracy at I _{PN}	@ +25°C	%	≤±0.5	≤±0.5	≤±0.5	≤±0.5	≤±0.5
Accuracy at I _{PN}	-40 ... +85°C	%	≤±1	≤±1	≤±1	≤±1	≤±1
Offset current	@ +25°C & ±24V (±5%)	mA	≤±0.6	≤±0.3	≤±0.25	≤0.25	≤0.25
Linearity		%	≤0.1	≤0.1	≤0.1	≤0.1	≤0.1
Thermal drift coefficient	-40 ... +85°C	μA/°C	≤10	≤7	≤5	≤10	≤20
Delay time		μs	≤1	≤1	≤1	≤1	≤1
di/dt correctly followed		A / μs	≤100	≤100	≤100	≤100	≤100
Bandwidth	-1dB	kHz	≤100	≤100	≤100	≤100	≤100
Max. no-load consumption current	@ ±24V (±5%)	mA	≤10	≤15	≤15	≤15	≤25
Secondary resistance	@ +85°C	Ω	≤27	≤88	≤64	≤46	≤30
Dielectric strength Primary/Secondary (or Primary/(Secondary+Screen) if relevant)	50 Hz, 1 min	kV	6.5	6.5	12	12	12
Dielectric strength Secondary/Screen (if relevant)	50 Hz, 1 min	kV	0.5	0.5	0.5	0.5	1.5
Supply voltage	±5%	V dc	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24	±15 ... ±24
Voltage drop		V	≤2.5	≤2.5	≤2.5	≤2.5	≤1.5
Mass		kg	0.36	0.36	0.78	0.85	1.5
Mass with side plates		kg	0.45	0.45	0.95	1	1.66
Operating temperature		°C	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85	-40 ... +85
Storage temperature		°C	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90	-50 ... +90

* Horizontal or vertical mounting is possible.

Variants

- secondary connection
- turn ratio

Conformity

EN50155
EN50121-3-2
EN50124-1



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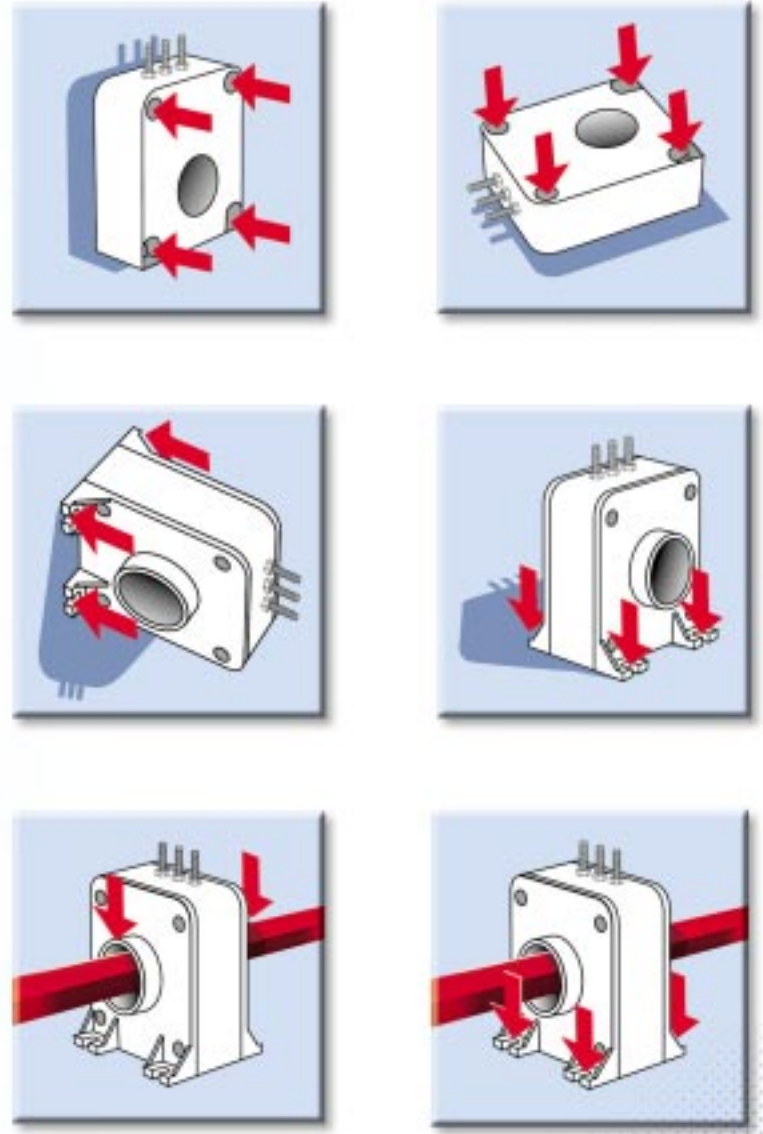
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ISO 14001



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