



Type Examination Certificate

No. SC0250-12

Control system “Cavotec Micro-control AS, MC-IRX-LITE”

Holder / Issued for / Manufacturer

Cavotec Micro-control AS, Gevinglia 112, Postboks 284, NO-7501 Stjordal, Norway
Reg.number 935534925

Product name and description

MC-IRX-LITE

MC-IRX-LITE is a radio remote control system consisting of a terminal- and a base unit.

Certification

The product described above fulfils the requirements for SIL 3 of the standard IEC 61508:2010 *Functional safety of electrical/electronic/programmable electronic safety-related systems*, part 1,2 and 3 for the following function:

- Stop function

The certification is based on a functional safety assessment according to IEC 61508 described in SP report PX11159:A together with functional tests and fault injections performed by SP on MC-IRX-LITE described in SP report PX11159:B and the user documentation in the currently valid revision.

Probability of dangerous failure per hour	PFHd = 19,6 FITs ($=\lambda du$)
Failure rate, dangerous detected failures	$\lambda_{dd} = 1110,5$ FITs
Failure rate, safe detected failures	$\lambda_{sd} = 1250$ FITs
Failure rate, safe undetected failures	$\lambda_{su} = 48,5$ FITs
Diagnostic coverage	DC = 98,26%
Safe failure fraction	SFF = 99,19%
Common cause failure	0 FIT
Hardware fault tolerance	HFT = 0
Systematic capability	SC 3
Classification	Type B element
Proof test interval	10 years
Diagnostic test interval	Continuous

Note: in the case where this product is used together with other products, the SIL (Safety Integrity Level) reached for the complete safety function must be determined by the end user.



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Marking

Each sample that conforms in all respects with the original item certified may display the text "Type-examined by SP". In addition, manuals and marking shall also refer to the standard IEC 61508:2010, the reached SIL (Safety Integrity Level) of the item, the number of this certificate and the serial number or equivalent of the item.

Validity

This certificate is valid until not later than 24th February 2022.

Miscellaneous

Other terms and conditions are set out in SP's certification rules for type-examination, SPCR 123. This certificate was originally issued on 25th January 2012.

SP Technical Research Institute of Sweden Certification

Lennart Månsson

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