motralec Danfoss The VLT Safety Option MCB 152 operates the safety function· DEMANDE DE PRIX >
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ENGINEERING TOMORROW

Fact Sheet

VLT® Safety Option MCB 152



The VLT® Safety Option MCB 152 operates the safety functions of a frequency converter via the PROFIsafe fieldbus. It improves flexibility by connecting safety devices within a plant.

The MCB 152 is a preferred choice for highly flexible machines with modular and variable quantity of safety zones in any manufacturing production line. Central and decentral drives located at different machinery cells can easily be interconnected with the PROFIsafe safety fieldbus. This interconnection enables activation of Safe Torque Off (STO) irrespective of where a hazard occurs. The safety functions of the MCB 152 are implemented according to EN IEC 61800-5-2.

PROFIsafe
functionality certified by PNO

Fieldbus Safe Torque Off (STO) with VLT® AutomationDrive

The MCB 152 supports PROFIsafe functionality to activate integrated safety functions of the VLT® AutomationDrive from any PROFIsafe host, up to

- Safety Integrity Level SIL 2 according to EN IEC 61508 and EN IEC 62061
- Performance Level PL d, Category 3 according to EN ISO 13849-1

Fieldbus profiles like PROFIsafe, PROFIdrive and FC-Profile are elements of the PROFINET fieldbus. This permits the transmission of standard and safety-related data on a single bus cable.

The existing network infrastructure is optimally utilised, since no separate cabling is required.

PROFIsafe device

The combination of VLT® Safety Option MCB 152, VLT® PROFINET MCA 120 fieldbus option and VLT® AutomationDrive FC 302 constitutes a PROFIsafe device.

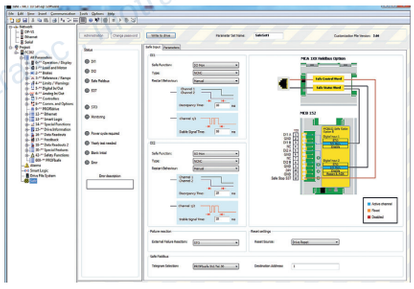
Purchase the drive fully-configured from the factory, or retrofit options in the field – whatever is the best fit for your business.

Feature	Benefit
Standard safety option integrated in the VLT® AutomationDrive FC 302 – configurable in the Drive Configurator	– Provides the safety function STO (Safe Torque Off) – Fewer safe I/O cards are required in the PLC – Reduced wiring due to decentralisation – Simple selection, configuration, project planning, and installation – Easy to configure via the MCT 10 safe plug-in
Two configurable safe digital inputs (NC-NC or antivalent)	– Connect door switches or emergency stop switches directly to the drive – Select whether the inputs directly activate the STO, or if the failsafe controller monitors the safe inputs for use in its failsafe program
One safe output (S37)	– Enables control of external devices that are not connected with PROFIsafe
PROFIsafe device (in combination with MCA 120)	– Usable in a wide range of safety applications – More advanced functions can be implemented by programming the safety PLC, for example guard interlocking, two-hand control or SS1 – Increased plant availability possible by formation of safe I/O groups
Easy to retrofit – fits B option slot of VLT® AutomationDrive FC 302	– High level of flexibility when expanding plants – Drives already running on PROFINET are easy to upgrade to PROFIsafe
GSD files that are easy to incorporate in Step 7 and TIA Portal	– Efficient programming and commissioning
Ordering number: 130B9860, VLT® Safety Option MCB 152, coated	

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To customise the safety application, adapt the settings of safety parameters. To configure via software, use the VLT® Motion Control Tool MCT 10 safe plug-in.



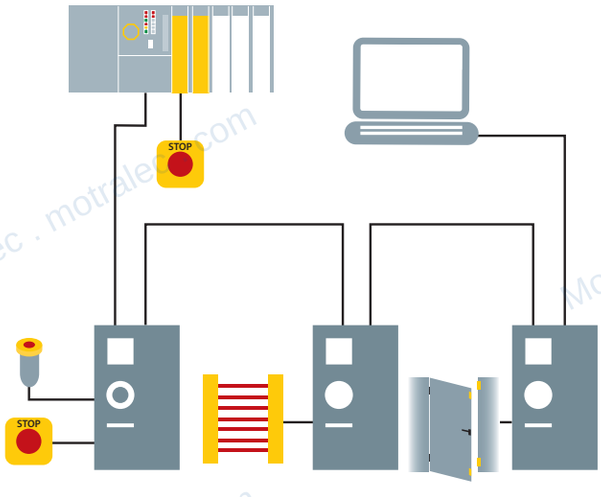
Convenient PC-based MCT 10 user interface.

Easy integration

Fail-safe controllers, fail-safe I/O, and fail-safe drives permit the implementation of safety requirements in every machine. The PROFIsafe device extends the advantages of functional safety to the next level of flexibility. It enables extension from an isolated safety device to interconnecting and cooperating safety-related devices within a plant.

Specifications

Digital inputs	
Number of digital inputs	4 (2 x 2-channel digital safety input)
Input voltage range	0-24 V DC
Input voltage, logic 0	< 5 V DC
Input voltage, logic 1	> 12 V DC
Input voltage (maximum)	28 V DC
Input current (minimum)	6 mA @ Vin = 24 V
Input resistance	Approximately 4 kΩ
Galvanic isolation	No
Short circuit-proof	Yes
Input pulse recognition time (min)	3 ms
Discrepancy time (min)	9 ms
Cable length	< 30 m (screened or unscreened cable) > 30 m (screened cable)
Digital output (Safe output)	
Number of outputs	1
Output voltage low	< 2 V DC
Output voltage high	> 19.5 V DC
Output voltage (maximum)	24.5 V DC
Maximum output current (@24 V)	< 100 mA
Maximum output current (@0 V)	< 0.5 mA
Galvanic Isolation	No
Diagnostic test pulse	300 us
Short circuit-proof	Yes
Cable length	< 30 m (screened cable)
24 V supply output	
Supply voltage	24 V DC (Voltage tolerance: +0.5 V DC to -4.5 V DC)
Maximum output current	150 mA
Short circuit-proof	Yes
Cable length	< 30 m (screened or unscreened cable) > 30 m (screened cable)
Certifications	
Safety Integrity Level up to SIL 2 according to EN IEC 62061, EN IEC 61508 standard (parts 1, 2 and 3) Performance level up to PL "d" and Category 3 according to EN ISO 13849-1	
PROFIBUS User Organisation PNO (PROFIBUS Nutzerorganisation e.V) Certificate No. Z20125	



The MCB 152 provides full flexibility to connect safety switches, light curtains or door switches where they are most optimally located.

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