

HEXOPUS SYSTEM

Smart safety device that transforms robots into human-aware, collaborative systems

Hexopus mounts between the flange and end-effector, creating a localized safety zone that moves with the tool. This on-robot approach eliminates the need for external infrastructure while providing protection around the robot's end-effector, making any tool collaborative, simplifying the risk assessment of the application.

Design to meet SIL2, PL-d cat 3, combines advanced capacitive sensing technology with intelligent signal processing to distinguish human operators, integrating with existing robot safety architectures through industrial standard interfaces (CAN bus, OSSD).

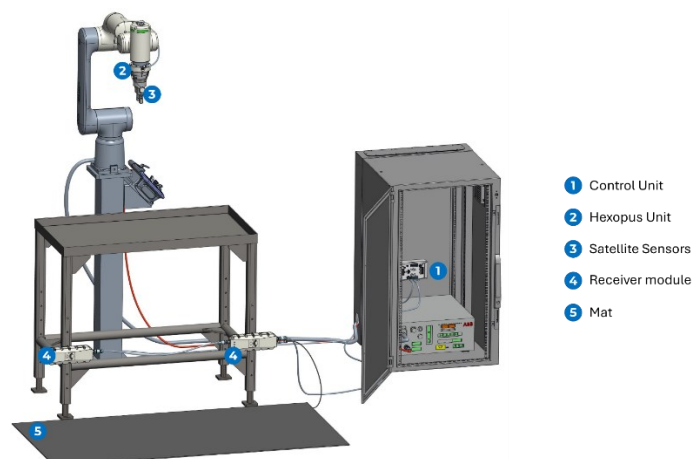
By removing barriers while enhancing protection, Hexopus allows manufacturers to unlock the full potential of their collaborative robot, achieving higher productivity, greater flexibility, and improved safety.



KEY VALUE PROPOSITION

- **Extended Detection Range:** 0-2000 mm full distance detection.
- **Configurable Detection Range:** 300-2000 mm, fully adaptable to application and environment.
- **Flange-Mounted Positioning:** delivers localized safety over the most hazardous interaction points on the robot.
- **Localized Safety Envelope:** a smart dynamic zone around the End-Of-Arm-Tool enables selective motion inhibition instead of full system shutdowns, minimizing productivity loss.
- **Multi-Brand Compatibility:** mounts on ISO 9409-1-50-4-M6 flanges (cobots up to 16 kg). Exclusive for ABB robots.
- **Seamless Retrofit:** plug-and-play installation, including retrofitting into legacy systems.
- **Flexible Safety Outputs:** configurable OSSD for safety controllers, or as dry contacts where no safety protocol is required. Supports speed separation monitoring.
- **Operational Continuity:** continuous collaborative operation without compromising cycle time.

SYSTEM ARCHITECTURE



TECHNICAL SPECIFICATIONS

MECHANICAL

Overall dimensions (ø x H)	110 x 30 mm
Weight	280 g
Robot-side Flange interface	ISO 9409-1-50-4-M6
Tool-side Flange interface	ISO 9409-1-50-4-M6
Housing Material	Polycarbonate Flame Retardant

ELECTRICAL

Supply Voltage	9 V DC
Current Draw	250 mA
Communication Interfaces	3x OSSD
Connector Type(s)	4-pole connection
Cable length	5 metres

ENVIRONMENTAL

Operating Temperature Range	0 – 40 °C
Humidity Range	Up to 70%
IP Rating	67
Flame resistance	UL94 - V2
Other	Oil and refrigerant compatibility

SENSING AND PERFORMANCE

Sensing Technology	Capacitive
Safe Detection Range	0 – 2000 mm
Configurable Detection Range	300 – 2000 mm
Field of View	360°
Detection Zone Coverage	Full Coverage (sphere shape)
Response Time	15 ms
Human/Object Discrimination	Yes
Configurability of Zones	Yes
Output behaviour	Speed Separation Monitoring

SAFETY CERTIFICATION

Functional Safety (ISO 13849)	PL-d category 3
Functional Safety (IEC 61508)	SIL 2
Other Certifications	CE, UL

COMPATIBILITY & INTEGRATION

Compatible Robot Brand	ABB exclusive
Compatible Robot Models	ABB Cobots
Compatible End-Effectors	All
Controller Integration	OSSD/SDO – SDI – Dry contacts
Configuration Tool	WebApp on FlexPendant GUI (during installation)

COMPONENT OVERVIEW

Component	Dimensions Weight IP Flame resistant
1 – Control Unit	90 x 160 x 60 mm 680 g IP20 –
2 – Hexopus Unit	110 x 30 mm 280 g IP67 UL94-V2
3 – Satellite sensors	30 x 15 mm 20 g IP67 UL94-V2
4 – Receiver module	220 x 50 mm 200 g IP67 UL94-V0
5 – Mat	Custom Custom IP67 –