

Capacitive $\Phi 52$ compact 6-axis force sensor

ZEF-6A100-4-RAD

This product is a capacitive force sensor that can simultaneously detect forces in six directions (Fx, Fy, Fz, Mx, My, Mz). The simple principle and structure of this sensor has realized a lower price, high reliability, and high durability. This sensor, while maintaining the durability and reliability of the conventional DynPick® series, has achieved further miniaturization through the use of a new mechanism. The smaller size and lighter weight of a force sensor are optimal for compact collaborative robots, which has seen increasing demand in recent years. With the weight of approximately 140g, the sensor is expected to be used in a wide variety of applications requiring force control with minimal impact on the payload. This sensor is also equipped with a unique "stopper mechanism" to prevent sensor failure from sudden overload, one of the features of DynPick®. Furthermore, it is compliant with dustproof and waterproof standards (IP65). The sensor supports supply voltages from 5V to 24V, and is compatible with a wide range of accessories for DynPick®.



* image

DynPick®

Simple structure has enabled further miniaturization and low cost $\phi 52\text{mm} \times \text{H}27.5\text{mm}$

Applications

- Force control of small industrial/collaborative robots
- Force control of single-axis robots
- Operation section for skill-assist equipment
- Weight detection of lightweight objects, etc.

features

- Compact and lightweight ($\phi 52\text{mm} \times \text{H}27.5\text{mm}$, approx. 140g)
- Low cost due to simple principle and structure
- Built-in overload countermeasure (WACOH-TECH's original stopper structure)
- IP65 compliant (dustproof and waterproof)
- Compatible with a wide variety of dedicated connection accessories

■ SPEC. (ZEF-6A100-4-RAD)

	Specifications(Typ)	Remarks
Power supply voltage	DC5V~DC24V	—
Rated load	Fx, Fy, Fz:100N / Mx, My, Mz:4Nm	—
Output form	RS422·EtherCAT·Ethernet·USB·Analog	Output form other than RS422 are optional
Current consumption	Max 180mA	Varies according to power supply voltage
Operating temperature range	0~50°C	No condensation
Temperature characteristics	0.2%FS/°C	—
Linearity	3%FS or less	—
Hysteresis	3%FS or less	—
Cross-axis sensitivity	5%FS or less	—
Outer dimensions	$\phi 52 \times \text{H}27.5\text{mm}$	Except the connector case
Weight	About 140g	—
IP code	IP65	—

* Specifications are provisional and may be subject to change without future notice.



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Capacitive 6-axis force sensor

ZEF-6A2000-100-RAD-B

This product is a capacitive force sensor that can simultaneously detect forces in six directions (Fx, Fy, Fz, Mx, My, Mz). The simple principle and structure of this sensor has realized a lower price, high reliability, and high durability. This sensor, while maintaining the durability and reliability of the conventional DynPick® series, has achieved price reduction and enhanced moment capacity through the use of a new mechanism. This product will expand the range of applications to processes where moment load was too large for force sensors to be adopted, and for transporting heavy objects. This sensor is also equipped with a unique "stopper mechanism" to prevent sensor failure from sudden overload, one of the features of DynPick®. Furthermore, it is compliant with dustproof and waterproof standards (IP65). The sensor supports supply voltages from 5V to 24V, and is compatible with a wide range of accessories for DynPick®.



* image

DynPick®

Low cost and high load carrying capacity achieved at a high level.
Can be used for a wider range of processes.

Applications

- Force control of industrial robots
- Deburring and polishing work by industrial robots
- Machining control of machine tools
- Weight detection in logistics/transportation, etc.

features

- Low cost due to simple principle and structure
- Built-in overload countermeasure (WACOH-TECH's original stopper structure)
- IP65 compliant (dustproof and waterproof)
- Compatible with a wide variety of dedicated connection accessories

■ SPEC. (ZEF-6A2000-100-RAD-B)

	Specifications(Typ)	Remarks
Power supply voltage	DC5V~DC24V	—
Rated load	Fx, Fy, Fz:2000N / Mx, My, Mz:100Nm	—
Output form	RS422・EtherCAT・Ethernet・USB・Analog	Output form other than RS422 are optional
Current consumption	Max 180mA	Varies according to power supply voltage
Operating temperature range	0~50°C	No condensation
Temperature characteristics	0.2%FS/°C	—
Linearity	3%FS or less	—
Hysteresis	3%FS or less	—
Cross-axis sensitivity	5%FS or less	—
Outer dimensions	φ130×H45.5mm	Except the connector case
Weight	About 1400g	—
IP code	IP65	—

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