

INSTRUCTION SHEET

Coded Magnetic Switches
HS7A-DMP

HS9Z-ZP1
HS7A-DMP

Confirm that the delivered product is what you have ordered. Read this instruction sheet to make sure of correct operation. Make sure that the instruction sheet is kept by the end user.

The products have been designed in accordance with the standards in effect : IEC 60947-5-1, EN 292, EN 60204-1 to ensure the safety of machine operators and machine operating reliability, and have obtained the UL/CSA certifications.

SAFETY NOTE

CAUTION

The use of the safety relay modules is required for the monitoring of the coded magnetic safety switches.

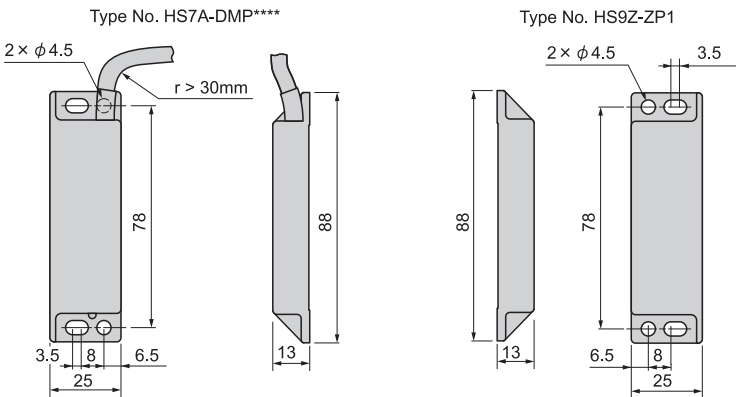
When correctly installed and connected to the HR1S safety relay modules they produce a category 4 control circuit per EN ISO 13849-1 (2 redundant contacts monitored by one HR1S safety relay module or FS series safety controller. See user's manual for wiring with safety controller).

Use the safety switches for an interlocking device in compliance with laws and regulations of the country in which it is being used.

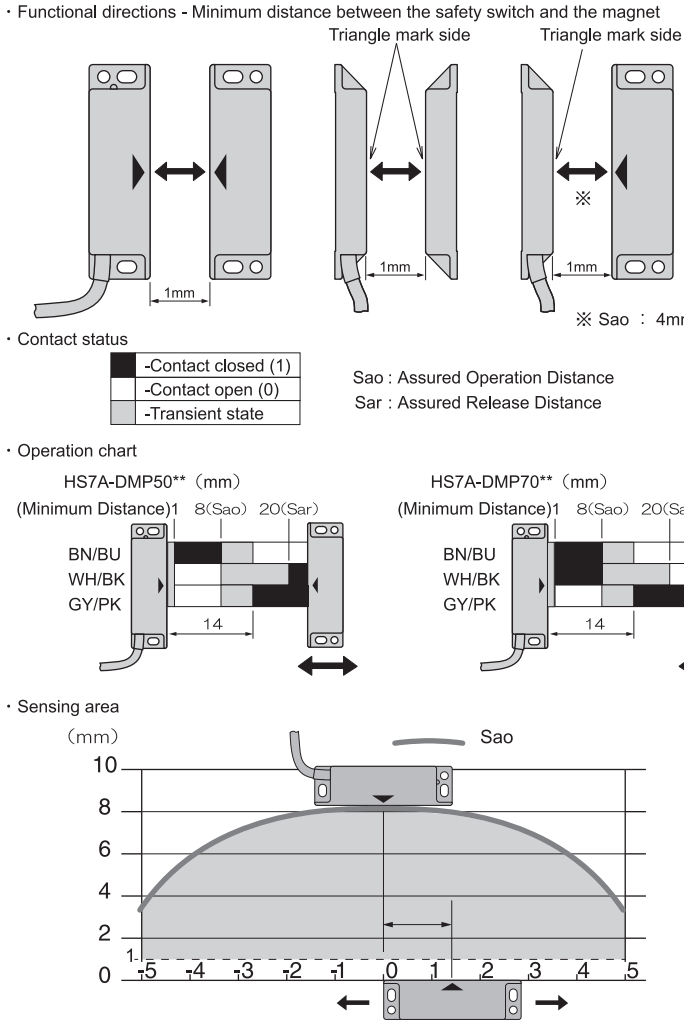
1 Specifications

| | |
|--|--|
| Conforming to standards | IEC / EN 60947-5-1 EN ISO / ISO 14119 UL 508, CSA C22.2 No.14 |
| Interlocking device Type / the level of coded | Type 4 interlocking device / low level coded actuator (EN ISO 14119) |
| Ambient air temperature | Operation : -13° F to 185° F(-25°C+85°C) (no freezing) Storage : -40° F to 185° F(-40°C+85°C) (no freezing) |
| Vibration resistance | 10 gn (10-150 Hz) conforming to IEC 60068-2-6 |
| Shock resistance | 30 gn (11 ms) conforming to IEC 60068-2-7 |
| Protection against electric shock | Class II as per IEC 60536 |
| Degree of protection | IP67 |
| Degree of pollution | 3, conforming to IEC / EN 60947-5-1 |
| Rated operating chatacteristics | Ue = 24VDC Ie = 100 mA |
| Protection (using without safety relay module) | 500 mA gG (gL) cartridge fuse (use type CC in the United States) |
| Repeat accuracy | ≤10% |
| Hysteresis | ≤20% |
| Frequency of operating cycle | 150 Hz |
| Drop out voltage | I=10mA 0,1V without LED; 2,4V with LED I=100mA 1V without LED; 4,2V with LED |
| Functional switches | Closing - Opening |
| Cable connection | By cable 6 x AWG 23 (0.25mm²) length 78.74 in, 196.85 in (2m, 5m), depending on model |

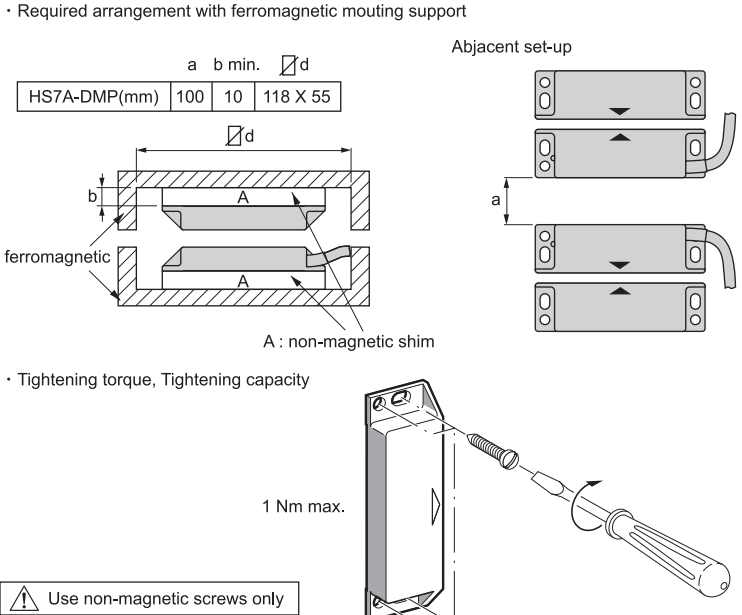
2 Dimensions (mm)



3 Operation

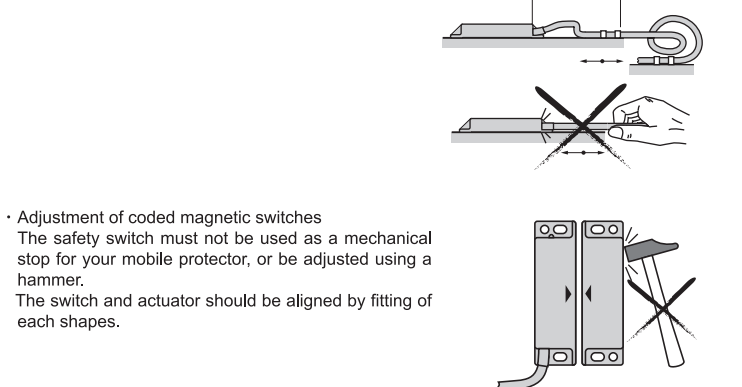


4 Mounting

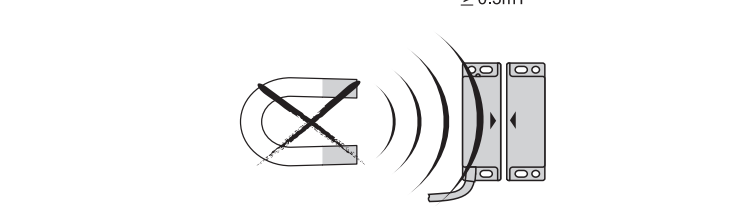


Use non-magnetic screws only

Utilization precautions



CAUTION



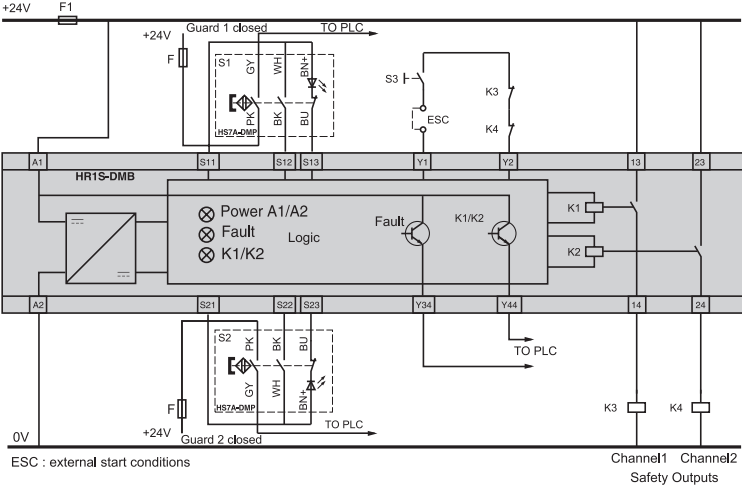
5 Wiring diagram

WARNING

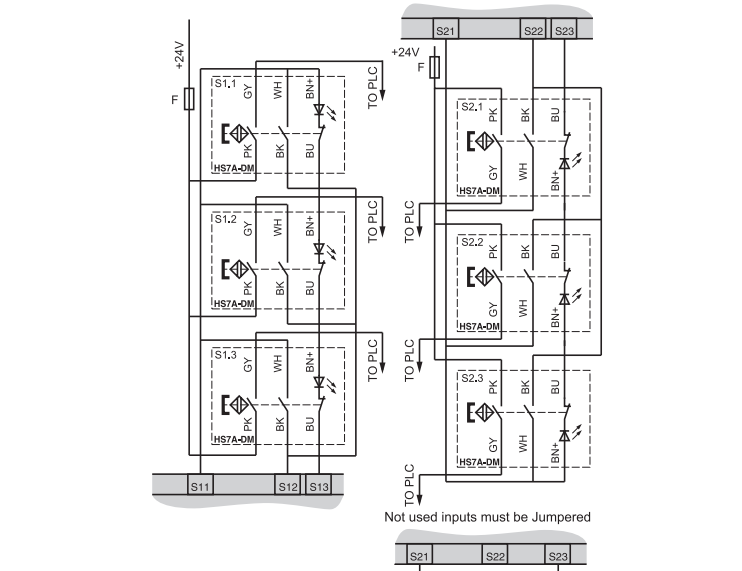
HAZARDOUS VOLTAGE
Disconnect all power before working on equipment.
Electric shock will result in death or serious injury.

* Illustration of contacts with magnet present

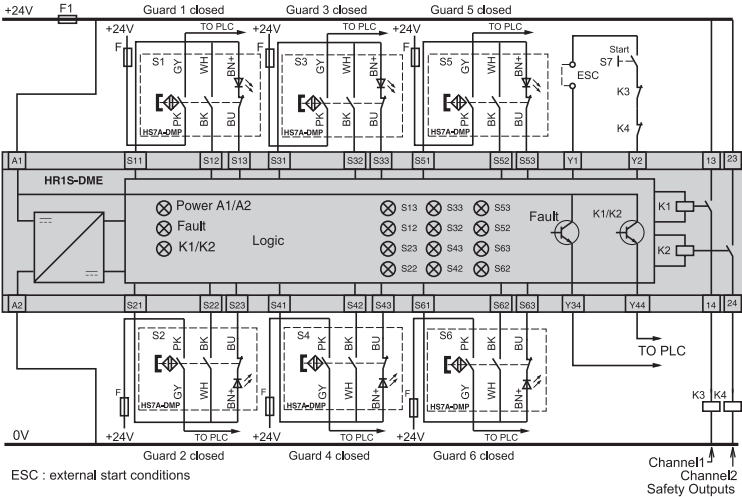
Cat. 4 / PL=e (EN ISO 13849-1) / SIL3
- HR1S-DMB + HS7A-DMP50** (NC+NC+NO) + HS9Z-ZP1



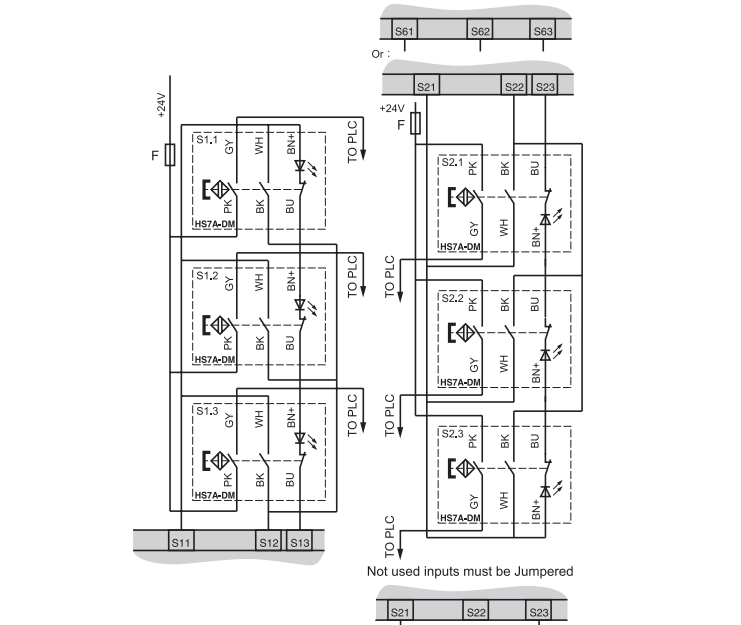
Cat. 3 / PL=d (EN ISO 13849-1) / SIL2 - HR1S-DMB



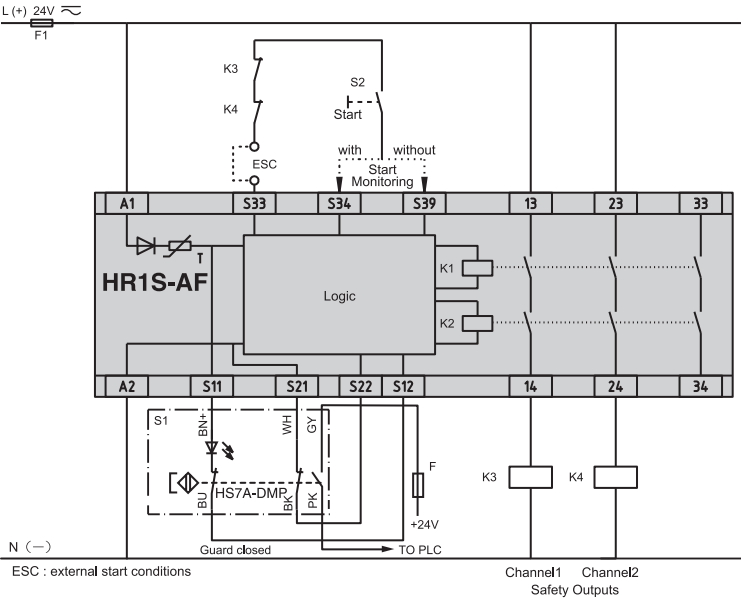
Cat. 4 / PL=e (EN ISO 13849-1) / SIL3
- HR1S-DME + HS7A-DMP50** (NC+NC+NO) + HS9Z-ZP1



Cat. 3 / PL=d (EN ISO 13849-1) / SIL2 - HR1S-DME



Cat. 4 / PL=e (EN ISO 13849-1) / SIL3
- HR1S-AF + HS7A-DMP70** (NO+NO+NC) + HS9Z-ZP1



Connectable HS7A-DMP per Input.

| | HS7A-DMP50** | | HS7A-DMP70** | |
|--------------|--------------|----------|--------------|----------|
| | without LED | with LED | without LED | with LED |
| HR1S-DMB/DME | 6 | 3 | 6 | 1 |
| HR1S-AF | | | | |

Type

| Type No. | LED | Cable | Contact | Type No. | LED | Cable | Contact |
|--------------|---------|-------|---------|--------------|---------|-------|---------|
| HS7A-DMP5002 | without | 2m | NO + NC | HS7A-DMP7002 | without | 2m | NO + NO |
| HS7A-DMP5012 | with | | NC + NC | HS7A-DMP7012 | with | | NO + NO |
| HS7A-DMP5005 | without | 5m | NC + NC | HS7A-DMP7005 | without | 5m | NO + NO |
| HS7A-DMP5015 | with | | NC + NC | HS7A-DMP7015 | with | | NO + NC |

IDEC CORPORATION

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2015.9

DECLARATION OF CONFORMITY
 We, IDEC CORPORATION 6-64, Nishimiyahara 2-chome Yodogawa-ku, Osaka 532-0004, Japan declare under our sole responsibility that the product:
 Description: Non-contact Safety Switch
 Series Name: HS7A Series
 Model No.: HS7A-DMP50** (** = 02, 12, 05, or 15), HS7A-DMP70** (** = 02, 12, 05, or 15) to which this declaration relates is in conformity with the EC Directive on the following standard(s) or other normative document(s). In case of alteration of the product, not agreed upon by us, this declaration will lose its validity.
 Applicable EC Directive: Low Voltage Directive (2006/95/EC)
 EC Directive of Electromagnetic Compatibility (2004/108/EC)
 Machinery Directive (2006/42/EC)
 Applicable Standard(s) : EN ISO 13849-1, EN ISO 14119, EN 60204-1, EN 62061, EN 60947-1, EN 60947-5-1
 Authorized Representative in EU : IDEC ELEKTROTECHNIK GmbH Heselstuecken 8, 22453 Hamburg, Germany