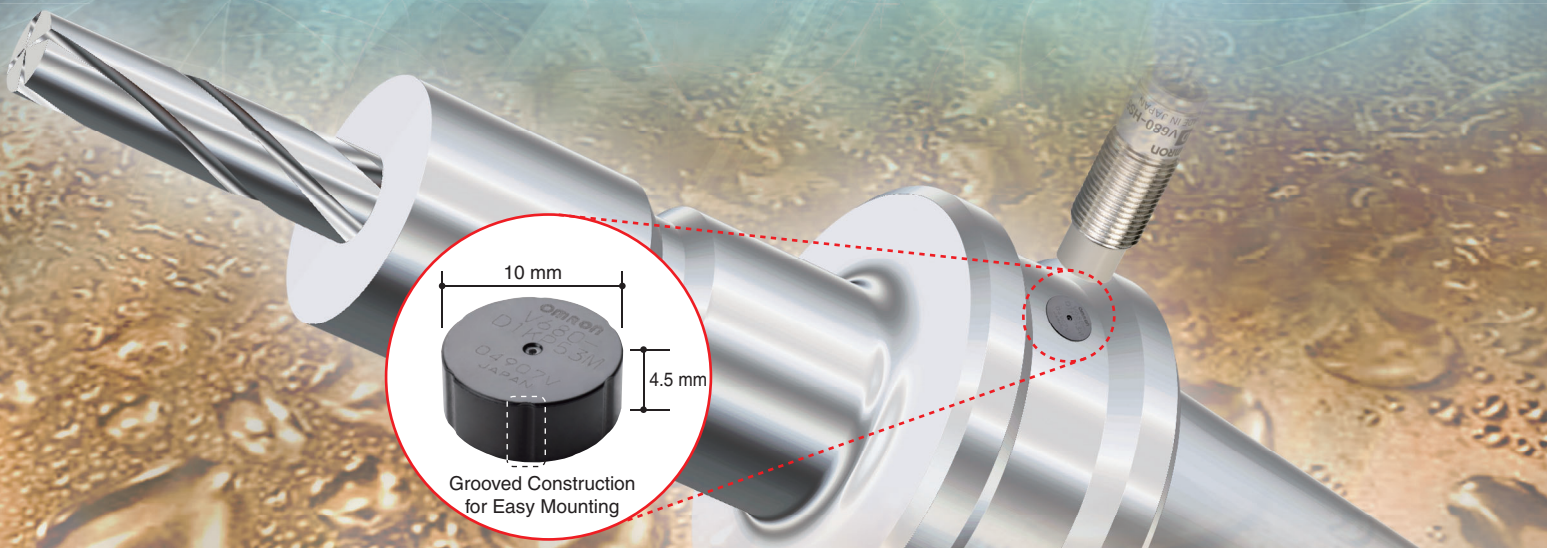
RFID System
V680 Series
10-mm-dia. ID Tags

V680-D1KP53M

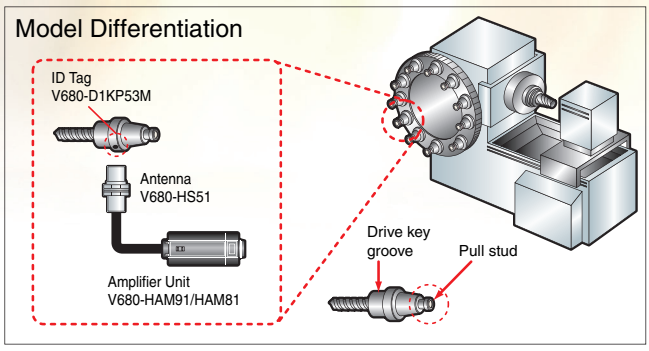
A New Model of ID Tag Enables Traceability of Jigs and Tools.



Features

- Easier mounting with 10-mm dia. × 4.5 mm height that is compatible with DIN specifications (DIN 69873).
- Conformance to international standards (ISO/IEC 18000-3) enables global application of RFID Systems.
- PPS resin provides excellent resistance to oil and water.

Application Examples



Tool Management for Machining Centers

Before Introduction

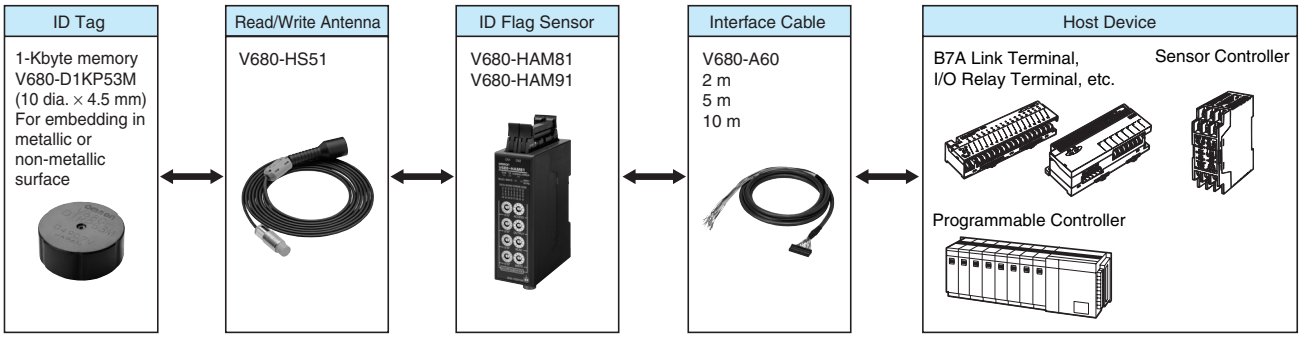
- Errors made in setting tools result in work delays or mistakes in processing.
- It is difficult to link the data required for tool management, such as operating time and tool length, to the actual tools.

After Introduction

- Setting errors, such as selecting the wrong tool, are prevented by unifying the tools and data.
- Tool life can be dependably managed to prevent declines in processing quality due to worn-out tools.
- Managing tool length compensations after sharpening tools helps prevent adjustments from being omitted when setting tools.

realizing

System Configuration



Ordering Information

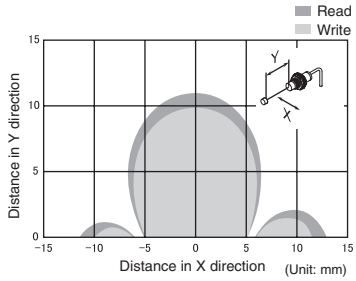
Item	Model	
ID Tag	V680-D1KP53M	1-Kbyte memory
Antenna	V680-HS51	---
ID Flag Sensor	V680-HAM91	NPN output
	V680-HAM81	PNP output

Special Interface Cable
(for V680-HAM91/-HAM81)

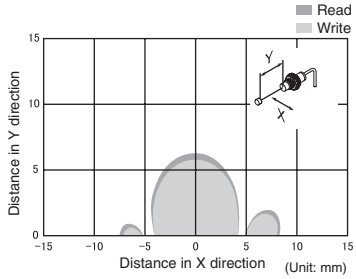
Cable length	Model
2 m	V680-A60 2M
5 m	V680-A60 5M
10 m	V680-A60 10M

Transmission Areas (Typical)

V680-HS51 and V680-D1KP53M
(embedded in non-metallic surface)



V680-HS51 and V680-D1KP53M
(embedded in metallic surface: steel)

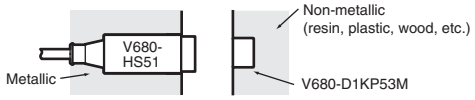
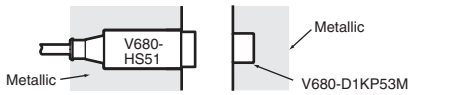


Ratings and Performance

Item / Model	V680-D1KP53M
Memory capacity	1,000 bytes (user area)
Memory type	EEPROM
Data backup time	10 years after writing at 85°C max., 0.5 years at 125°C max.
Memory longevity	100,000 writes per block (at 25°C)
Ambient operating temperature (during transmission)	–25 to 85°C (with no icing)
Ambient operating temperature (not during transmission)	–40 to 125°C (with no icing)
Ambient storage temperature	–40 to 125°C (with no icing)
Ambient operating humidity	35% to 95%
Degree of protection	IP68 (IEC60529) In-house standard for antenna oil resistance (former JEM standard equivalent to IP67g) (Read/Write Antenna portion) *
Vibration resistance	10 to 2,000 Hz, 1.5-mm double amplitude at 150 m/s² acceleration, with 10 sweeps in X, Y, and Z directions for 15 minutes each
Shock resistance	500 m/s² in X, Y, and Z directions 3 times each (18 times in total)
Appearance	10-mm dia. × 4.5 mm
Materials	Case: PPS resin, Filing: Epoxy resin
Weight	Approx. 0.5 g
Metallic compatibility	Yes

* This OMRON in-house standard confirms resistance to cutting and other oils.
Note: For details, refer to the User's Manual (Cat. No. Z262).

Performance Specifications

Recommended combination		Function	Transmission distance	ID Tag and Read/Write Antenna mounting conditions
ID Tag	Read/Write Antenna			
V680-D1KP53M (embedded in non-metallic surface)	V680-HS51	Read distance	0.5 to 6.5 mm (axial deviation ±2 mm)	
		Write distance	0.5 to 6.0 mm (axial deviation ±2 mm)	
V680-D1KP53M (embedded in metallic surface: steel)		Read distance	0.5 to 3.5 mm (axial deviation ±2 mm)	
		Write distance	0.5 to 3.0 mm (axial deviation ±2 mm)	

This document provides information mainly for selecting suitable models. Please read the User's Manual (Cat. No. Z262) carefully for information that the user must understand and accept before purchase, including information on warranty, limitations of liability, and precautions.

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