RF Tag
V680S-series

Type	Memory capacity	Appearance	Size	Installation	Model
Battery-less	2 K bytes		40 × 40 × 5 mm	For flush mounting on metallic surface	**V680S-D2KF67M**
				For flush mounting on nonmetallic surface	**V680S-D2KF67**
			86 × 54 × 10 mm	For flush mounting on metallic surface	**V680S-D2KF68M**
				For flush mounting on nonmetallic surface	**V680S-D2KF68**
	8 K bytes		40 × 40 × 5 mm	For flush mounting on metallic surface	**V680S-D8KF67M ***
				For flush mounting on nonmetallic surface	**V680S-D8KF67 ***
			86 × 54 × 10 mm	For flush mounting on metallic surface	**V680S-D8KF68M ***
				For flush mounting on nonmetallic surface	**V680S-D8KF68 ***

∗ V680S-D8KF6□M/V680S-D8KF6□ can be used with V680S series Reader/Writer version 2.00 or higher.

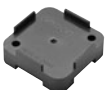### V680-series

Type	Memory capacity	Appearance	Size	Installation	Model
Battery-less	1 K bytes		20 dia. × 2.7 mm	For flush mounting on nonmetallic surface	**V680-D1KP54T**
			34 × 34 × 3.5 mm	For flush mounting on metallic surface	**V680-D1KP66MT**
				For flush mounting on nonmetallic surface	**V680-D1KP66T**
Environment-resistant type Battery-less			95 × 36.5 × 6.5 mm	For flush mounting on nonmetallic surface	**V680-D1KP66T-SP**
High-temperature type Battery-less			80 dia. × t10 mm	For mounting with special attachment	**V680-D1KP58HTN**

Note: V680 series 8K-byte RF Tag (V680-D8KF67,V680-D8KF67M and V680-D8KF68A) can communicate with V680S series Reader/Writer. For details, refer to the User's Manual (Cat. No. Z339, Z353 or Z354).

RF Tag Attachment

Type	Appearance	Model
For the V680-D1KP66T		**V600-A86**
For the V680-D1KP58HTN		**V680-A80**
For the V680-D1KP54T		**V700-A80**

RF Tag
V680S-series
RF Tag (2K-byte Memory)

Item Model	V680S-D2KF67	V680S-D2KF67M	V680S-D2KF68	V680S-D2KF68M
Memory capacity	2,000 bytes (user area)			
Memory type	FRAM			
Data Retention	10 years after writing (85 °C or less)			
Memory life	One trillion writes for each block (85 °C or less), Access frequency *1 : One trillion accesses			
Ambient operating temperature	−20 to 85 °C (with no icing)			
Ambient storage temperature	−40 to 125 °C (with no icing)			
Ambient operating humidity	35% to 85%			
Degree of protection	IP68 (IEC 60529:2001), Oil resistance equivalent to IP67G (JIS C 0920:2003, Appendix 1) *2. IPX9K (DIN 40 050)			
Vibration resistance	No abnormality after application of 10 to 2,000 Hz, 1.5-mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each		No abnormality after application of 10 to 500 Hz, 1.5-mm double amplitude, acceleration: 100 m/s^2, 10 sweeps each in X, Y, and Z directions for 11 minutes each	
Shock resistance	No abnormality after application of 500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)			
Dimensions	40 × 40 × 5 mm (W × H × D)		86 × 54 × 10 mm (W × H × D)	
Materials	PPS resin			
Weight	Approx. 11.5 g	Approx. 12 g	Approx. 44 g	Approx. 46 g
Metal countermeasures	None	Provided	None	Provided

*1 The number of accesses is the total number of reads and writes.
*2 Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Note: For details, refer to the User's Manual (Cat. No. Z339).

RF Tag (8K-byte Memory)

Item Model	V680S-D8KF67	V680S-D8KF67M	V680S-D8KF68	V680S-D8KF68M
Memory capacity	8,192 bytes (user area)			
Memory type	FRAM			
Data Retention	10 years after writing (85 °C or less)			
Memory life	One trillion writes for each block (85 °C or less), Access frequency *1 : One trillion accesses			
Ambient operating temperature	−20 to 85 °C (with no icing)			
Ambient storage temperature	−40 to 125 °C (with no icing)			
Ambient operating humidity	35% to 85%			
Degree of protection	IP68 (IEC 60529:2001), Oil resistance equivalent to IP67G (JIS C 0920:2003, Appendix 1) *2. IPX9K (DIN 40 050)			
Vibration resistance	No abnormality after application of 10 to 2,000 Hz, 1.5-mm double amplitude, acceleration: 150 m/s^2, 10 sweeps each in X, Y, and Z directions for 15 minutes each		No abnormality after application of 10 to 500 Hz, 1.5-mm double amplitude, acceleration: 100 m/s^2, 10 sweeps each in X, Y, and Z directions for 11 minutes each	
Shock resistance	No abnormality after application of 500 m/s^2, 3 times each in X, Y, and Z directions (Total: 18 times)			
Dimensions	40 × 40 × 5 mm (W × H × D)		86 × 54 × 10 mm (W × H × D)	
Materials	PPS resin			
Weight	Approx. 11.5 g	Approx. 12 g	Approx. 44 g	Approx. 46 g
Metal countermeasures	None	Provided	None	Provided

*1 The number of accesses is the total number of reads and writes.
*2 Oil resistance has been tested using a specific oil as defined in the OMRON test method.

Note: For details, refer to the User's Manual (Cat. No. Z339).

Communication Specifications

V680S-series
RF Tag (2K-byte Memory)

Combination		Function	Communication range (unit: mm)	RF Tag and Reader/Writer mounting conditions
RF Tag	Reader/Writer			
V680S-D2KF67M (mounted to metallic material)	V680S-HMD63-ETN/-EIP/-PNT	Read/Write	6.0 to 30.0 (axis offset ±10)	
	V680S-HMD64-ETN/-EIP/-PNT	Read/Write	3.0 to 40.0 (axis offset ±10)	
	V680S-HMD66-ETN/-EIP/-PNT	Read/Write	4.0 to 45.0 (axis offset ±10)	
V680S-D2KF67 (mounted to non-metallic material)	V680S-HMD63-ETN/-EIP/-PNT	Read/Write	7.0 to 40.0 (axis offset ±10)	
	V680S-HMD64-ETN/-EIP/-PNT	Read/Write	5.0 to 65.0 (axis offset ±10)	
	V680S-HMD66-ETN/-EIP/-PNT	Read/Write	7.0 to 85.0 (axis offset ±10)	

Characteristic Data

RF Tag Interrogation Zone (for Reference Only)

The values given for communications ranges are reference values. Refer to pages 19 to 25 for communications distance specifications.
Communication range depends on the RF Tags, ambient temperature, surrounding metal, noise, and other factors.
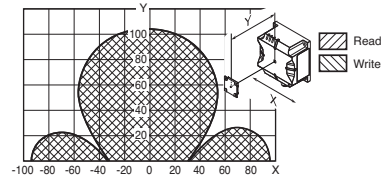Carefully check the operation when installing a system.

V680S-series

RF Tag (2K-byte memory)
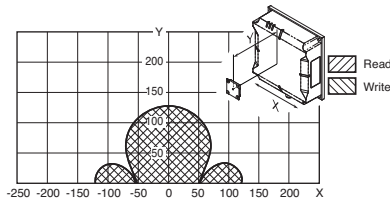
V680S-D2KF67

V680S-HMD63-□□□ and V680S-D2KF67
(Back Surface: Metal)
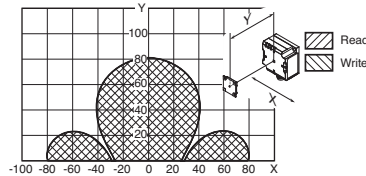
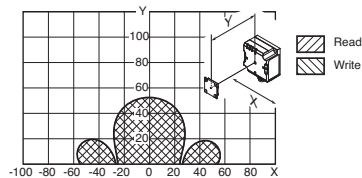V680S-HMD64-□□□ and V680S-D2KF67
(Back Surface: Metal)

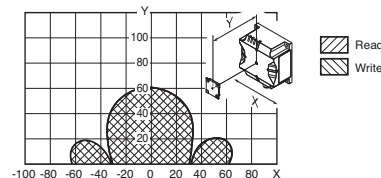V680S-HMD66-□□□ and V680S-D2KF67
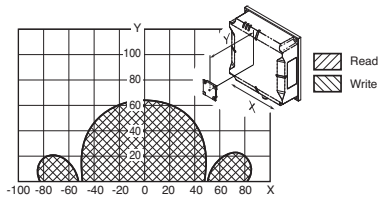(Back Surface: Metal)

V680S-D2KF67M

V680S-HMD63-□□□ and V680S-D2KF67M
(Back Surface: Metal)   (Back Surface: Metal)

V680S-HMD64-□□□ and V680S-D2KF67M
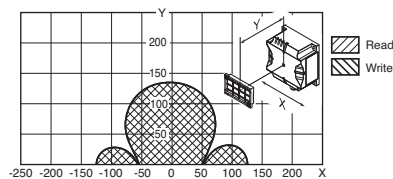(Back Surface: Metal)   (Back Surface: Metal)

V680S-HMD66-□□□ and V680S-D2KF67M
(Back Surface: Metal)   (Back Surface: Metal)

V680S-D2KF68

V680S-HMD64-□□□ and V680S-D2KF68
(Back Surface: Metal)   (Tag direction: Horizontal)

V680S-HMD64-□□□ and V680S-D2KF68
(Back Surface: Metal)   (Tag direction: Vertical)