

UP-□R

High Frequency Oscillation Cylindrical Proximity Sensor

- Applied exclusive IC for C-MOS
- Wide range of power supply voltage(5-35 V DC : DC 3 wire type)
- Internal noise enhanced circuit
- Applied the nonpolar two wire type



Specification

■ D.C NPN / PNP type

■ UP8RM / UP8RD / UP12RM / UP12RD

Appearance	NPN				
	PNP				
Model	NPN	UP8RM-1.5N□□	UP8RD-2N□□	UP12RM-2N□□	UP12RD-4N□□
	PNP	UP8RM-1.5P□□	UP8RD-2P□□	UP12RM-2P□□	UP12RD-4P□□
	Size	M8		M12	
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 8 X 8 X 1		Iron 12 X 12 X 1	
Sensing distance		1.5 mm	2 mm	2 mm	4 mm
Setting distance		0 ~ 1.2 mm	0 ~ 1.6 mm	0 ~ 1.6 mm	0 ~ 3.2 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		800 Hz		800 Hz	400 Hz
Power voltage		12 V - 24 V d.c. (Usable voltage range 5 - 35 V d.c.)			
Control output		Load Current : 200 mA max.			
Residual voltage		Max. 1.5 V			
Current consumption		Max. 6 mA			
Operation indication		Red LED			
protection circuit		Power reversely connected protective circuit, surge protective circuit and over current protective circuit are built in.			
Ambient temperature		-25 ~ 70 °C (Less than ± 10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		1500 V a.c. 50 / 60 Hz for 1 min (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type			
Material		•Case : stainless •Sensing surface : PBT •Cable holder : polyester elastomer		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer	

Certification		CE	
Weight	Cable	60g	70g
	Connector Cable type	None	30g
	Connector	None	30g

■UP18RM / UP18RD / UP18RLM / UP18RLD

Appearance	NPN				
	PNP				
Model	NPN	UP18RM-5N□□	UP18RD-8N□□	UP18RLM-5N□□	UP18RLD-8N□□
	PNP	UP18RM-5P□□	UP18RD-8P□□	UP18RLM-5P□□	UP18RLD-8P□□
	Size	M18			
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 18 X 18 X 1	Iron 25 X 25 X 1	Iron 18 X 18 X 1	Iron 25 X 25 X 1
Sensing distance		5 mm	8 mm	5 mm	8 mm
Setting distance		0 ~ 4 mm	0 ~ 6.4 mm	0 ~ 4 mm	0 ~ 6.4 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		350 Hz	200 Hz	350 Hz	200 Hz
Power voltage		12 V - 24 V d.c. (Usable voltage range 5 - 35 V d.c.)			
Control output		Load Current : 200 mA max.			
Residual voltage		Max. 1.5 V			
Current consumption		Max. 6 mA			
Operation indication		Red LED			
protection circuit		Power reversely connected protective circuit, surge protective circuit and over current protective circuit are built in.			
Ambient temperature		-25 ~ 70 °C (Less than ± 10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		1500 V a.c. 50 / 60 Hz for 1 min (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type			
Material		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer			
Certification		CE			
Weight	Cable	120g		140g	
	Connector Cable type	80g		100g	

	Connector	60g	80g
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■ UP30RM / UP30RD / UP30RLM / UP30RLD

Appearance	NPN				
	PNP				
Model	NPN	UP30RM-10N□□	UP30RD-15N□□	UP30RLM-10N□□	UP30RLD-15N□□
	PNP	UP30RM-10P□□	UP30RD-15P□□	UP30RLM-10P□□	UP30RLD-15P□□
	Size	M30			
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 30 X 30 X 1	Iron 45 X 45 X 1	Iron 30 X 30 X 1	Iron 45 X 45 X 1
Sensing distance		10 mm	15 mm	10 mm	15 mm
Setting distance		0 ~ 8 mm	0 ~ 12 mm	0 ~ 8 mm	0 ~ 12 mm
Hysteresis		Less than 10% of sensing distance			
Response frequency		250 Hz	100 Hz	250 Hz	100 Hz
Power voltage		12 V - 24 V d.c. (Usable voltage range 5 - 35 V d.c.)			
Control output		Load Current : 200 mA max.			
Residual voltage		Max. 1.5 V			
Current consumption		Max. 6 mA			
Operation indication		Red LED			
protection circuit		Power reversely connected protective circuit, surge protective circuit and over current protective circuit are built in.			
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		1500 V a.c. 50 / 60 Hz for 1 min (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type			
Material		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer			
Certification					
Weight	Cable	170g		220g	
	Connector Cable type	130g		180g	
	Connector	150g		200g	

■ D.C 2wire type

■ UP8RM / UP8RD / UP12RM / UP12RD

Appearance	N.O				
	N.C				
Model	Polar	UP8RM-1.5T□□	UP8RD-2TT□□	UP12RM-2T□□	UP12RD-4T□□
	No polarity	-	-	UP12RM-2U□□	UP12RD-4U□□
	Size	M8		M12	
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 8 X 8 X 1		Iron 12 X 12 X 1	
Sensing distance		1.5 mm	2 mm	2 mm	4 mm
Setting distance		0 ~ 1.2 mm	0 ~ 1.6 mm	0 ~ 1.6 mm	0 ~ 3.2 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		800 Hz		800 Hz	400 Hz
Power voltage		12 V - 24 V d.c. (Usable voltage range 10 - 30 V d.c.)			
Control output		Load Current : 100 mA max.			
Residual voltage		▪T (Polarity) : max. 3.5 V, ▪U (no polarity) : 5 V max.			
Current consumption		Max. 1 mA			
Operation indication		Red LED			
protection circuit		Surge protective circuit and over current protective circuit are built-in.			
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		1500 V a.c. 50 / 60 Hz for 1 min (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		▪Cable type (standard cable length 2 m) ▪Connector Cable type ▪Connector type			
Material		▪Case : brass (chrome plating) ▪Sensing surface : PBT ▪Cable holder : polyester elastomer		▪Case : brass (chrome plating) ▪Sensing surface : PBT ▪Cable holder : polyester elastomer	
Certification					
Weight	Cable	60g		70g	
	Connector Cable type	None		50g	
	Connector	None		30g	

■ UP18RM / UP18RD / UP18RLM / UP18RLD

Appearance	N.O				
	N.C				

Model	Polar	UP18RM-5T□□	UP18RD-8T□□	UP18RLM-5T□□	UP18RLD-8T□□
	No polarity	UP18RM-5U□□	UP18RD-8U□□	UP18RLM-5U□□	UP18RLD-8U□□
	Size	M18			
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 18 X 18 X 1	Iron 25 X 25 X 1	Iron 18 X 18 X 1	Iron 25 X 25 X 1
Sensing distance		5 mm	8 mm	5 mm	8 mm
Setting distance		0 ~ 4 mm	0 ~ 6.4 mm	0 ~ 4 mm	0 ~ 6.4 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		350 Hz	200 Hz	350 Hz	200 Hz
Power voltage		12 V - 24 V d.c. (Usable voltage range 10 - 30 V d.c.)			
Control output		Load Current : 100 mA max.			
Residual voltage		•T (Polarity) : max. 3.5 V •U (No polarity) : max. 5 V			
Current consumption		Max. 1 mA			
Operation indication		Red LED			
protection circuit		Surge protective circuit and over current protective circuit are built-in.			
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		1500 V a.c. 50 / 60 Hz for 1 min (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type			
Material		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer			
Certification		CE			
Weight	Cable	120g		140g	
	Connector Cable type	80g		100g	
	Connector	60g		80g	

■ UP30RM / UP30RD / UP30RLM / UP30RLD

Appearance	N.O				
	N.C				
Model	Polar	UP30RM-10T□□	UP30RD-15T□□	UP30RLM-10T□□	UP30RLD-15T□□
	No polarity	UP30RM-10U□□	UP30RD-15U□□	UP30RLM-10U□□	UP30RLD-15U□□
	Size	M30			
Shield		Shield	Non shield	Shield	Non shield

Standard sensing object (mm)		Iron 30 X 30 X 1	Iron 45 X 45 X 1	Iron 30 X 30 X 1	Iron 45 X 45 X 1
Sensing distance		10 mm	15 mm	10 mm	15 mm
Setting distance		0 ~ 8 mm	0 ~ 12 mm	0 ~ 8 mm	0 ~ 12 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		250 Hz	100 Hz	250 Hz	100 Hz
Power voltage		12 V - 24 V d.c. (Usable voltage range 10 - 30 V d.c.)			
Control output		Load Current : 100 mA max.			
Residual voltage		•T (Polarity) : max. 3.5 V •U (No polarity) : max. 5 V			
Current consumption		Max. 1 mA			
Operation indication		Red LED			
protection circuit		Surge protective circuit and over current protective circuit are built-in.			
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		1500 V a.c. 50 / 60 Hz for 1 min (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type			
Material		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer			
Certification		CE			
Weight	Cable	170g		220g	
	Connector				
	Cable type	130g		180g	
	Connector	150g		200g	

■ A.C 2wire Type

■ UP12RM / UP12RD

Appearance	N.O		
	N.C		
Model	AC type	UP12RM-2A□□	UP12RD-4A□□
	Size	M12	
Shield		Shield	Non shield
Standard sensing object (mm)		Iron 12 X 12 X 1	
Sensing distance		2 mm	4 mm
Setting distance		0 ~ 1.6 mm	0 ~ 3.2 mm
Hysteresis		Less than 10 % of sensing distance	
Response frequency		20 Hz	

Power voltage		100 V - 240 V a.c. (Usable voltage range 90 - 250 V a.c.)
Control output		Load Current : 200 mA max.
Residual voltage		Max. 10 V
Current consumption		Max. 2.2 mA
Operation indication		Red LED
protection circuit		surge protective circuit built in.
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)
Ambient humidity		35 ~ 85 % R.H.
Degree of protection		IP67 (IEC standard)
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions
Dielectric strength		For 1 min at 2000 V a.c. 50 / 60 Hz (between the recharging part and case)
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type
Material		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer
Certification		
Weight	Cable	70g
	Connector Cable type	30g
	Connector	30g

▪ UP18RM / UP18RD / UP18RLM / UP18RLD

Appearance	N.O				
	N.C				
Model	AC type	UP18RM-5A□□	UP18RD-8A□□	UP18RLM-5A□□	UP18RLD-8A□□
	Size	M18			
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 18 X 18 X 1	Iron 25 X 25 X 1	Iron 18 X 18 X 1	Iron 25 X 25 X 1
Sensing distance		5 mm	8 mm	5 mm	8 mm
Setting distance		0 ~ 4 mm	0 ~ 6.4 mm	0 ~ 4 mm	0 ~ 6.4 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		20 Hz			
Power voltage		100 V - 240 V a.c. (Usable voltage range 90 - 250 V a.c.)			
Control output		Load Current : 200 mA max.			
Residual voltage		Max. 10 V			
Current consumption		Max. 2.2 mA			
Operation indication		Red LED			
protection circuit		surge protective circuit built in.			
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)			

Ambient humidity		35 ~ 85 % R.H.	
Degree of protection		IP67 (IEC standard)	
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions	
Dielectric strength		For 1 min at 2000 V a.c. 50 / 60 Hz (between the recharging part and case)	
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions	
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)	
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type	
Material		•Case : brass (chrome plating) •Sensing surface : PBT •Cable holder : polyester elastomer	
Certification		CE	
Weight	Cable	120g	140g
	Connector Cable type	80g	100g
	Connector	60g	80g

■ UP30RM / UP30RD / UP30RLM / UP30RLD

Appearance	N.O				
	N.C				
Model	AC type	UP30RM-10A□□	UP30RD-15A□□	UP30RLM-10A□□	UP30RLD-15A□□
	Size	M30		M30	
Shield		Shield	Non shield	Shield	Non shield
Standard sensing object (mm)		Iron 30 X 30 X 1	Iron 45 X 45 X 1	Iron 30 X 30 X 1	Iron 45 X 45 X 1
Sensing distance		10 mm	15 mm	10 mm	15 mm
Setting distance		0 ~ 8 mm	0 ~ 12 mm	0 ~ 8 mm	0 ~ 12 mm
Hysteresis		Less than 10 % of sensing distance			
Response frequency		20 Hz			
Power voltage		100 V - 240 V a.c. (Usable voltage range 90 - 250 V a.c.)			
Control output		Load Current : 200 mA max.			
Residual voltage		Max. 10 V			
Current consumption		Max. 2.2 mA			
Operation indication		Red LED			
protection circuit		surge protective circuit built in.			
Ambient temperature		-25 ~ 70 °C (Less than ±10 % of sensing distance at temperature 20 °C)			
Ambient humidity		35 ~ 85 % R.H.			
Degree of protection		IP67 (IEC standard)			
Vibration resistance		10 - 55 Hz (cycle 1 min), double amplitude : 1.5 mm 2 hours for each of X · Y · Z directions			
Dielectric strength		For 1 min at 2000 V a.c. 50 / 60 Hz (between the recharging part and case)			
Shock resistance		500 m/s ² 3 times to each, X · Y · Z directions			
Insulation resistance		Min. 50 MΩ (500 V d.c. mega standard)			
Connection structure		•Cable type (standard cable length 2 m) •Connector Cable type •Connector type			

Material		▪Case : brass (chrome plating) ▪Sensing surface : PBT ▪Cable holder : polyester elastomer	
Certification		CE	
Weight	Cable	170g	220g
	Connector		
	Cable type	130g	180g
	Connector	150g	200g