

UPOR series

Cylindrical proximity sensor



Please scan the QR code to view details.

Suffix code

Category	Code						Description
UP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	High-frequency oscillating proximity sensor
Sensor face size	8						M8
	12						M12
	18						M18
	30						M30
Exterior structure	RM						Cylindrical shape (shielded)
	RD						Cylindrical shape (non-shielded)
	RLM						Long cylindrical shape (shielded); except for M8, M12
	RLD						Long cylindrical shape (non-shielded); except for M8, M12
Sensing distance	1.5						UP8-RM1.5 only
	2						UP8-RD2, UP12-RM2 only
	4						UP12-RD4 only
	5						UP18-RM5, UP18-RLM5 only
	8						UP18-RD8, UP18-RLD8 only
	10						UP30-RM10, UP30-RLM10 only
	15						UP30-RD15, UP30-RLD15 only
Power and output type	N						DC NPN output
	P						DC PNP output
	A						AC 2-wire
	T						DC 2-wire (polarized)
	U						DC 2-wire (non-polarized) * except for M8
Output status	A						Normally Open (NO)
	C						Normally Closed (NC)
Connecting structure							No indication (cable type)
	CR						Connector cable type
	C						Connector type

* Note: M8 (Ø8) only applicable to the cable type.

High-frequency oscillating DC 3-wire

Model	NPN	UP8RM-1.5N□□	UP8RD-2N□□	UP12RM-2N□□	UP12RD-4N□□
	PNP	UP8RM-1.5P□□	UP8RD-2P□□	UP12RM-2P□□	UP12RD-4P□□
Exterior					
Shield	Shielded		Non-shielded		Non-shielded
Standard target (mm)	Ferrous metal (8 X 8 X 1)			Ferrous metal (12 X 12 X 1)	
Sensing distance	1.5 mm		2 mm		4 mm
Set distance	0 to 1.2 mm		0 to 1.6 mm		0 to 3.2 mm
Hysteresis	10% of the sensing distance or less				
Response frequency	800 Hz			800 Hz	
Power voltage	12 - 24 V d.c. (Operating voltage range: 5 - 35 V d.c.)				
Control output	200 mA max. (resistive load)				
Residual voltage	1.5 V or lower				
Current consumption	6 mA or lower				
Operation indicator	Red LED				
Protection circuit	Built-in protection circuit: reverse power protection, surge protection, overcurrent protection				
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH				
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE				
Dielectric strength	1,500 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)				
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)				
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z				
Protective structure	IP67 (IEC 60529)				
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type				
Color	NPN: Green, PNP: Navy				
Material	•Case: Stainless steel •Sensor face: PBT •Cable holder: polyester elastomer			•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: polyester elastomer	
Weight	Cable type	60 g	60 g	70 g	70 g
	Connector cable type	None	None	30 g	30 g
	Connector type	None	None	30 g	30 g

High-frequency oscillating DC 3-wire

Model	NPN	UP18RM-5N00	UP18RD-8N00	UP18RLM-5N00	UP18RLD-8N00
	PNP	UP18RM-5P00	UP18RD-8P00	UP18RLM-5P00	UP18RLD-8P00
Exterior					
Shield	Shielded		Non-shielded		Non-shielded
Standard target (mm)	Ferrous metal (18 × 18 × 1)		Ferrous metal (25 × 25 × 1)		Ferrous metal (25 × 25 × 1)
Sensing distance	5 mm		8 mm		8 mm
Set distance	0 to 4 mm		0 to 6.4 mm		0 to 6.4 mm
Hysteresis	10% of the sensing distance or less				
Response frequency	350 Hz		200 Hz		200 Hz
Power voltage	12 - 24 V d.c. (Operating voltage range: 5 - 35 V d.c.)				
Control output	200 mA max. (resistive load)				
Residual voltage	1.5 V or lower				
Current consumption	6 mA or lower				
Operation indicator	Red LED				
Protection circuit	Built-in protection circuit: reverse power protection, surge protection, overcurrent protection				
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH				
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE				
Dielectric strength	1,500 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)				
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)				
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z				
Protective structure	IP67 (IEC 60529)				
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type				
Color	•NPN: Green •PNP: Navy				
Material	•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: polyester elastomer				
Weight	Cable type	120 g	120 g	140 g	140 g
	Connector cable type	80 g	80 g	100 g	100 g
	Connector type	60 g	60 g	80 g	80 g





High-frequency oscillating DC 3-wire

Model	NPN	UP30RM-10N00	UP30RD-15N00	UP30RLM-10N00	UP30RLD-15N00
	PNP	UP30RM-10P00	UP30RD-15P00	UP30RLM-10P00	UP30RLD-15P00
Exterior					
Shield	Shielded		Non-shielded		Non-shielded
Standard target (mm)	Ferrous metal (30 × 30 × 1)		Ferrous metal (45 × 45 × 1)		Ferrous metal (45 × 45 × 1)
Sensing distance	10 mm		15 mm		15 mm
Set distance	0 to 8 mm		0 to 12 mm		0 to 12 mm
Hysteresis	10% of the sensing distance or less				
Response frequency	250 Hz		100 Hz		100 Hz
Power voltage	12 - 24 V d.c. (Operating voltage range: 5 - 35 V d.c.)				
Control output	200 mA max. (resistive load)				
Residual voltage	1.5 V or lower				
Current consumption	6 mA or lower				
Operation indicator	Red LED				
Protection circuit	Built-in protection circuit: reverse power protection, surge protection, overcurrent protection				
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH				
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE				
Dielectric strength	1,500 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)				
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)				
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z				
Protective structure	IP67 (IEC 60529)				
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type				
Color	•NPN: Green •PNP: Navy				
Material	•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: polyester elastomer				
Weight	Cable type	170 g	170 g	220 g	220 g
	Connector cable type	130 g	130 g	180 g	180 g
	Connector type	150 g	150 g	200 g	200 g

■ High-frequency oscillating DC 2-wire (polarized/non-polarized)

Model	Polarized	UP8RM-15T00	UP8RD-2T00	UP12RM-2T00	UP12RD-4T00			
	Non-polarized	-	-	UP12RM-2U00	UP12RD-4U00			
Exterior								
Shield	Shielded		Non-shielded		Shielded		Non-shielded	
Standard target (mm)	Ferrous metal (8 × 8 × 1)		Ferrous metal (8 × 8 × 1)		Ferrous metal (12 × 12 × 1)		Ferrous metal (12 × 12 × 1)	
Sensing distance	1.5 mm		2 mm		2 mm		4 mm	
Set distance	0 to 1.2 mm		0 to 1.6 mm		0 to 1.6 mm		0 to 3.2 mm	
Hysteresis	10% of the sensing distance or less							
Response frequency	800 Hz		800 Hz		800 Hz		400 Hz	
Power voltage	12 - 24 V d.c. (Operating voltage range: 10 - 30 V d.c.)							
Control output	100 mA max. (resistive load)							
Residual voltage	• T (polarized): 3.5 V or lower • U (non-polarized): 5 V or lower							
Leakage current	1 mA or lower							
Operation indicator	Red LED							
Protection circuit	Built-in surge protection circuit, overcurrent protection circuit							
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH							
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE							
Dielectric strength	1,500 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)							
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)							
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z							
Protective structure	IP67 (IEC 60529)							
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type							
Color	•NO: Green •NC: Navy							
Material	•Case: Stainless steel •Sensor face: PBT •Cable holder: polyester elastomer				•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: polyester elastomer			
Weight	Cable type	60 g		70 g		30 g		
	Connector cable type	None		None		30 g		
	Connector type	None		None		30 g		

■ High-frequency oscillating DC 2-wire (polarized/non-polarized)

Model	Polarized	UP18RM-5T00	UP18RD-8T00	UP18RLM-5T00	UP18RLD-8T00			
	Non-polarized	UP18RM-5U00	UP18RD-8U00	UP18RLM-5U00	UP18RLD-8U00			
Exterior								
Shield	Shielded		Non-shielded		Shielded		Non-shielded	
Standard target (mm)	Ferrous metal (18 × 18 × 1)		Ferrous metal (25 × 25 × 1)		Ferrous metal (18 × 18 × 1)		Ferrous metal (25 × 25 × 1)	
Sensing distance	5 mm		8 mm		5 mm		8 mm	
Set distance	0 to 4 mm		0 to 6.4 mm		0 to 4 mm		0 to 6.4 mm	
Hysteresis	10% of the sensing distance or less							
Response frequency	350 Hz		200 Hz		350 Hz		200 Hz	
Power voltage	12 - 24 V d.c. (Operating voltage range: 10 - 30 V d.c.)							
Control output	100 mA max. (resistive load)							
Current voltage	• T (polarized): 3.5 V or lower • U (non-polarized): 5 V or lower							
Leakage current	1 mA or lower							
Operation indicator	Red LED							
Protection circuit	Built-in surge protection circuit, overcurrent protection circuit							
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH							
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE							
Dielectric strength	1,500 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)							
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)							
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z							
Protective structure	IP67 (IEC 60529)							
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type							
Color	•NO: Green •NC: Navy							
Material	•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: Polyester elastomer							
Weight	Cable type	120 g	120 g	140 g	140 g	100 g	100 g	
	Connector cable type	80 g	80 g	100 g	100 g	80 g	80 g	
	Connector type	60 g	60 g	80 g	80 g	60 g	60 g	

■ High-frequency oscillating DC 2-wire (polarized/non-polarized)

Model	Polarized	UP30RM-10T□□	UP30RD-15T□□	UP30RLM-10T□□	UP30RLD-15T□□
	Non-polarized	UP30RM-10U□□	UP30RD-15U□□	UP30RLM-10U□□	UP30RLD-15U□□
Exterior					
Shield	Shielded		Non-shielded		Non-shielded
Standard target (mm)	Ferrous metal (30 × 30 × 1)		Ferrous metal (45 × 45 × 1)		Ferrous metal (45 × 45 × 1)
Sensing distance	10 mm		15 mm		15 mm
Set distance	0 to 8 mm		0 to 12 mm		0 to 12 mm
Hysteresis	10% of the sensing distance or less				
Response frequency	250 Hz		100 Hz		100 Hz
Power voltage	12 - 24 V d.c. (Operating voltage range: 10 - 30 V d.c.)				
Control output	100 mA max. (resistive load)				
Residual voltage	·T (polarized): 3.5 V or lower ·U (non-polarized): 5 V or lower				
Leakage current	1 mA or lower				
Operation indicator	Red LED				
Protection circuit	Built-in surge protection circuit, overcurrent protection circuit				
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH				
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE				
Dielectric strength	1,500 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)				
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)				
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z				
Protective structure	IP67 (IEC 60529)				
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type				
Color	·NO: Green ·NC: Navy				
Material	·Case: Brass (chrome-plated) ·Sensor face: PBT ·Cable holder: Polyester elastomer				
Weight	Cable type	170 g		220 g	
	Connector cable type	130 g		180 g	
	Connector type	150 g		200 g	

■ High-frequency oscillating AC 2-wire

Model	UP12RM-2A□□	UP12RD-4A□□	
Exterior			
Shield	Shielded	Non-shielded	
Standard target (mm)	Ferrous metal (12 × 12 × 1)		
Sensing distance	2 mm	4 mm	
Set distance	0 to 1.6 mm	0 to 3.2 mm	
Hysteresis	10% of the sensing distance or less		
Response frequency	20 Hz		
Power voltage	100 - 240 V a.c. 50 - 60 Hz (Operating voltage range: 90 - 250 V a.c. 50 - 60 Hz)		
Control output	200 mA max. (resistive load)		
Residual voltage	10 V or lower		
Leakage current	2.2 mA or lower		
Operation indicator	Red LED		
Protection circuit	Built-in surge protection circuit		
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH		
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE		
Dielectric strength	2,000 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)		
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)		
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z		
Protective structure	IP67 (IEC 60529)		
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type		
Color	·NO: Green ·NC: Navy		
Material	·Case: Brass (chrome-plated) ·Sensor face: PBT ·Cable holder: Polyester elastomer		
Weight	Cable type	70 g	70 g
	Connector cable type	30 g	30 g
	Connector type	30 g	30 g

■ High-frequency oscillating AC 2-wire

Model	UP18RM-5A00	UP18RD-8A00	UP18RLM-5A00	UP18RLD-8A00
Exterior				
Shield	Shielded	Non-shielded	Shielded	Non-shielded
Standard target (mm)	Ferrous metal (18 × 18 × 1)	Ferrous metal (25 × 25 × 1)	Ferrous metal (18 × 18 × 1)	Ferrous metal (25 × 25 × 1)
Sensing distance	5 mm	8 mm	5 mm	8 mm
Set distance	0 to 4 mm	0 to 6.4 mm	0 to 4 mm	0 to 6.4 mm
Hysteresis	10% of the sensing distance or less			
Response frequency	20 Hz			
Power voltage	100 - 240 V a.c. 50 - 60 Hz (Operating voltage range: 90 - 250 V a.c. 50 - 60 Hz)			
Control output	200 mA max. (resistive load)			
Residual voltage	10 V or lower			
Leakage current	2.2 mA or lower			
Operation indicator	Red LED			
Protection circuit	Built-in surge protection circuit			
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH			
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE			
Dielectric strength	2,000 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)			
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)			
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z			
Protective structure	IP67 (IEC 60529)			
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type			
Color	•NO: Green •NC: Navy			
Material	•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: Polyester elastomer			
Weight	Cable type	120 g		140 g
	Connector cable type	80 g		100 g
	Connector type	60 g		80 g

■ High-frequency oscillating AC 2-wire

Model	UP30RM-10A00	UP30RD-15A00	UP30RLM-10A00	UP30RLD-15A00
Exterior				
Shield	Shielded	Non-shielded	Shielded	Non-shielded
Standard target (mm)	Ferrous metal (30 × 30 × 1)	Ferrous metal (45 × 45 × 1)	Ferrous metal (30 × 30 × 1)	Ferrous metal (45 × 45 × 1)
Sensing distance	10 mm	15 mm	10 mm	15 mm
Set distance	0 to 8 mm	0 to 12 mm	0 to 8 mm	0 to 12 mm
Hysteresis	10% of the sensing distance or less			
Response frequency	20 Hz			
Power voltage	100 - 240 V a.c. 50 - 60 Hz (Operating voltage range: 90 - 250 V a.c. 50 - 60 Hz)			
Control output	200 mA max. (resistive load)			
Residual voltage	10 V or lower			
Leakage current	2.2 mA or lower			
Operation indicator	Red LED			
Protection circuit	Built-in surge protection circuit			
Ambient temperature/humidity	-25 to 70 °C (±10% of the sensing distance or less at 20 °C), 35 to 85% RH			
Insulation resistance	50 MΩ or higher (500 V d.c. in megaohms); between all terminals and the CASE			
Dielectric strength	2,000 V a.c. 1 minute at 50/60 Hz (between all terminals and the CASE)			
Vibration resistance	10 - 55 Hz (1 minute interval, double amplitude: 1.5 mm, 2 hours in each direction X, Y, Z)			
Shock resistance	500 m/s ² , 3 times in each direction X, Y, Z			
Protective structure	IP67 (IEC 60529)			
Connecting structure	Cable type (standard cable length: 2 m), Connector cable type, Connector type			
Color	•NO: Green •NC: Navy			
Material	•Case: Brass (chrome-plated) •Sensor face: PBT •Cable holder: Polyester elastomer			
Weight	Cable type	170 g	170 g	220 g
	Connector cable type	130 g	130 g	180 g
	Connector type	150 g	150 g	200 g