



# Incremental rotary encoders measure pulses per revolution



## Reliable position detection using optical technology

- For applications in material handling, packaging, robotics, and metalworking
- Multiple flange housings available in a variety of resolutions
- Shock resistant up to 30 g and vibration resistant up to 200 g
- Non-contact optical sensing technology offers wear-free position detection
- Incremental encoders offer a great price / performance value

Switching frequency up to 300 kHz

High resolution

Operating temperature up to 100°C

Vibration and shock resistant

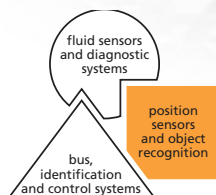
ifm introduces a new family of incremental rotary encoders that provide reliable position detection in a variety of applications found in material handling, packaging, robotics, metalworking, printing, and the elevator / escalator markets.

Incremental encoders are used wherever linear or rotational movements need to be evaluated. They generate a precisely defined number of pulses per revolution.

### Application examples include:

- Pallet and container positioning
- Conveyor position
- Position of stacker and gantry cranes
- Forklift speeds and direction monitoring
- Material length verification
- Cut-to-length measurements
- Roll diameter measurement and end-of-roll detection
- Elevator door position
- Rotational direction

ifm's incremental encoders withstand shock and vibration environments, offer high switching frequencies and are a great price / performance value to meet the needs of industrial automation applications.




## Incremental rotary encoders

### Selection guide

#### Type RA

- Direct flange version with 6 mm hollow shaft
- Resolution 10 to 1,000 pulses
- Cable entry for radial use
- Protection rating for the shaft IP 64 / housing IP 67

	Housing diameter	Shaft / diameter	Flange	Resolution / pulse rate	Operating voltage [V]	Connection	Part No.	List Price (USD)
	<b>Integrated stator coupling · Max RPM: 10,000</b>							
	Ø 36.5	Hollow / 6 mm	Direct	10	10...30 DC	2 m cable	<b>RA 6001</b>	<b>\$239.00</b>
	Ø 36.5	Hollow / 6 mm	Direct	50	10...30 DC	2 m cable	<b>RA 6005</b>	<b>\$239.00</b>
	Ø 36.5	Hollow / 6 mm	Direct	100	10...30 DC	2 m cable	<b>RA 6007</b>	<b>\$239.00</b>
	Ø 36.5	Hollow / 6 mm	Direct	360	10...30 DC	2 m cable	<b>RA 6013</b>	<b>\$239.00</b>
	Ø 36.5	Hollow / 6 mm	Direct	500	10...30 DC	2 m cable	<b>RA 6015</b>	<b>\$239.00</b>
	Ø 36.5	Hollow / 6 mm	Direct	1000	10...30 DC	2 m cable	<b>RA 6029</b>	<b>\$239.00</b>

#### Type RB

- Direct flange version with 6 mm solid shaft
- Resolution 10 to 1,000 pulses
- Cable entry for radial use
- Protection rating for the shaft IP 64 / housing IP 67

	Housing diameter	Shaft / diameter	Flange	Resolution / pulse rate	Operating voltage [V]	Connection	Part No.	List Price (USD)
	<b>Separate coupling · Max RPM: 10,000</b>							
	Ø 36.5	Solid / 6 mm	Direct	10	10...30 DC	2 m cable	<b>RB 6001</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	20	10...30 DC	2 m cable	<b>RB 6002</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	50	10...30 DC	2 m cable	<b>RB 6005</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	60	10...30 DC	2 m cable	<b>RB 6006</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	100	10...30 DC	2 m cable	<b>RB 6007</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	150	10...30 DC	2 m cable	<b>RB 6010</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	200	10...30 DC	2 m cable	<b>RB 6011</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	360	10...30 DC	2 m cable	<b>RB 6013</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	500	10...30 DC	2 m cable	<b>RB 6015</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	600	10...30 DC	2 m cable	<b>RB 6016</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	36	10...30 DC	2 m cable	<b>RB 6025</b>	<b>\$229.00</b>
	Ø 36.5	Solid / 6 mm	Direct	1000	10...30 DC	2 m cable	<b>RB 6029</b>	<b>\$229.00</b>



## Selection guide


### Type RO

- Round flange version with stator coupling 12 mm one-sided hollow shaft
- Resolution 100 to 5,000 pulses
- Cable entry for radial use
- Protection rating for the shaft IP 64 / housing IP 67

	Housing diameter	Shaft / diameter	Flange	Resolution / pulse rate	Operating voltage [V]	Connection	Part No.	List Price (USD)
	<b>Integrated stator coupling · Max RPM: 12,000</b>							
	Ø 58	Hollow / 12 mm	Direct	360	10...30 DC	1 m cable	<b>RO 6316</b>	<b>\$241.00</b>
	Ø 58	Hollow / 12 mm	Direct	360	10...30 DC	M18 QD	<b>RO 6341</b>	<b>\$297.00</b>
	Ø 58	Hollow / 12 mm	Direct	100	10...30 DC	1 m cable	<b>RO 6342</b>	<b>\$241.00</b>
	Ø 58	Hollow / 12 mm	Direct	500	10...30 DC	1 m cable	<b>RO 6344</b>	<b>\$241.00</b>
	Ø 58	Hollow / 12 mm	Direct	1024	10...30 DC	1 m cable	<b>RO 6345</b>	<b>\$241.00</b>
	Ø 58	Hollow / 12 mm	Direct	3600	10...30 DC	1 m cable	<b>RO 6348</b>	<b>\$241.00</b>
	Ø 58	Hollow / 12 mm	Direct	5000	10...30 DC	1 m cable	<b>RO 6350</b>	<b>\$241.00</b>
	Ø 58	Hollow / 12 mm	Direct	100	10...30 DC	M18 QD	<b>RO 6357</b>	<b>\$297.00</b>

### Type RU

- Servo flange version with 6 mm solid shaft
- Resolution 48 to 10,000 pulses
- Cable entry for axial and radial use
- Protection rating for the shaft IP 64 / housing IP 67

	Housing diameter	Shaft / diameter	Flange	Resolution / pulse rate	Operating voltage [V]	Connection	Part No.	List Price (USD)
	<b>Separate coupling · Max RPM: 16,000</b>							
	Ø 58	Solid / 6 mm	Servo	50	10...30 DC	2 m cable	<b>RU 6001</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	100	10...30 DC	2 m cable	<b>RU 6003</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	200	10...30 DC	2 m cable	<b>RU 6009</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	250	10...30 DC	2 m cable	<b>RU 6010</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	360	10...30 DC	2 m cable	<b>RU 6013</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	500	10...30 DC	2 m cable	<b>RU 6016</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	1000	10...30 DC	2 m cable	<b>RU 6024</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	6000	10...30 DC	2 m cable	<b>RU 6033</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	2500	10...30 DC	2 m cable	<b>RU 6036</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	2920	10...30 DC	2 m cable	<b>RU 6038</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	3600	10...30 DC	2 m cable	<b>RU 6040</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	5000	10...30 DC	2 m cable	<b>RU 6045</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	6000	10...30 DC	2 m cable	<b>RU 6046</b>	<b>\$297.00</b>
	Ø 58	Solid / 6 mm	Servo	9000	10...30 DC	2 m cable	<b>RU 6048</b>	<b>\$477.00</b>
	Ø 58	Solid / 6 mm	Servo	10000	10...30 DC	2 m cable	<b>RU 6052</b>	<b>\$477.00</b>
	Ø 58	Solid / 6 mm	Servo	6000	10...30 DC	M23 QD	<b>RU 6113</b>	<b>\$378.00</b>









## Selection guide

### Type RV

- Clamp flange version with 10 mm solid shaft
- Resolution 50 to 5,000 pulses
- Cable entry for axial and radial use
- Protection rating for the shaft IP 64 / housing IP 67

	Housing diameter	Shaft / diameter	Flange	Resolution / pulse rate	Operating voltage [V]	Connection	Part No.	List Price (USD)
	<b>Separate coupling · Max RPM: 12,000</b>							
	Ø 58	Solid / 10 mm	Clamp	100	10...30 DC	2 m cable	<b>RV 6003</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	200	10...30 DC	2 m cable	<b>RV 6009</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	360	10...30 DC	2 m cable	<b>RV 6013</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	500	10...30 DC	2 m cable	<b>RV 6016</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	600	10...30 DC	2 m cable	<b>RV 6018</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	1000	10...30 DC	2 m cable	<b>RV 6024</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	2000	10...30 DC	2 m cable	<b>RV 6033</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	2500	10...30 DC	2 m cable	<b>RV 6036</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	3600	10...30 DC	2 m cable	<b>RV 6040</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	720	10...30 DC	M23 QD	<b>RV 6058</b>	<b>\$378.00</b>
	Ø 58	Solid / 10 mm	Clamp	2500	10...30 DC	M23 QD	<b>RV 6087</b>	<b>\$399.00</b>
	Ø 58	Solid / 10 mm	Clamp	100	10...30 DC	flange	<b>RV 6092</b>	<b>\$369.00</b>
	Ø 58	Solid / 10 mm	Clamp	3600	10...30 DC	5 m cable	<b>RV 6093</b>	<b>\$351.00</b>
	Ø 58	Solid / 10 mm	Clamp	5000	10...30 DC	2 m cable	<b>RV 6100</b>	<b>\$316.00</b>
	Ø 58	Solid / 10 mm	Clamp	600	10...30 DC	M23 QD	<b>RV 6127</b>	<b>\$378.00</b>

## Accessories

Type	Description	Part No.	List Price (USD)	Type	Description	Part No.	List Price (USD)
	Angle bracket for types RA, RB, RO, RU	<b>E 60033</b>	<b>\$78.00</b>		Fastening clamp for servo flange, steel	<b>E 60041</b>	<b>\$3.23</b>
	Angle bracket for type RV	<b>E 60035</b>	<b>\$78.00</b>				
	Flexible coupling with clamp connection Ø6 mm / Ø10 mm	<b>E 60065</b>	<b>\$55.00</b>		Spring disc coupling, Ø 6 mm / Ø 10 mm, diecast zinc, PA	<b>E 60117</b>	<b>\$64.00</b>
	Flexible coupling with clamp connection Ø6 mm / Ø10 mm	<b>E 60066</b>	<b>\$60.00</b>		Spring disc coupling, Ø 6 mm / Ø 6 mm, diecast zinc, PA	<b>E 60121</b>	<b>\$64.00</b>
	Flexible coupling with clamp connection Ø10 mm / Ø10 mm	<b>E 60067</b>	<b>\$60.00</b>		2" square flange for RB	<b>UX 0009</b>	<b>\$25.00</b>
					2.5" square flange for RV	<b>UX 0010</b>	<b>\$25.00</b>

