

### Rotary encoders TGR10/20/30:

Model Name	Miniature versions, Diameter 22mm	Standard versions, Diameter 58mm			Hand wheel
	TGR22	TGR10	TGR11	TGR12	TGR30
Model picture					
Cable axial version	22.5	10.5	11.5	12.5	TGR3000
Cable radial version	22.4	10.6	11.6	12.6	TGR3001
Connector axial version		10.3	11.3	12.3	TGR3002
Connector radial version		10.4	11.4	12.4	(see data sheet)
Flange diameter	22	58	58	58	58
Shaft diameter	F6f7	F10f8	F6f8	F8h7	-
Mechanical protection	IP50	IP64, IP65	IP64, IP65	IP64, IP65	IP50
Output signals: DO(square waves),  DS (square waves differential with line driver), SI(11uA sine), SV(1Vpp sine)	DO,  DS	DO,  DS,  SI (11uA sine), SV (1Vpp sine)	DO,  DS,  SI (11uA sine), SV (1Vpp sine)	DO,  DS,  SI (11uA sine), SV (1Vpp sine)	DO,  DS,  SI (11uA sine), SV (1Vpp sine)
Output levels:  C (OC), T: 5V TTL, S: sine current, L: C-MOS, P: Push-Pull	C, T, P	C, T, L, S, P	C, T, L, S, P	C, T, L, S, P	C, T, L, S, P
Supply voltage	5V, 12V, 15-30V	5V, 12V, 15-30V	5V, 12V, 15-30V	5V, 12V, 15-30V	5V, 12V, 15-30V
Max frequency	50kHz	T,L: 300kHz, C: 150kHz, S: 85kHz	T,L: 300kHz, C: 150kHz, S: 85kHz	T,L: 300kHz, C: 150kHz, S: 85kHz	T,L: 300kHz, C: 150kHz, S: 85kHz
No. lines/rev.	standard: 100, 250, 360, 1024  other on special request	standard: 50, 60, 100, 125, 127, 150, 180, 200, 250, 360, 500, 600, 900, 1000, 1024, 1250, 1500, 1800, 2000, 2500, 3600, 5000  also available with integrated interpolation electronic x10			100
Accessories	Couplings K, M, H; Fastening plates	Couplings K, M, H; fastening plates, connectors, mounting flanges			no