



HEIDENHAIN

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Product Information

LC 182

LC 192

Absolute Linear Encoders

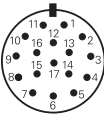
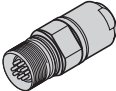
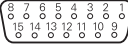
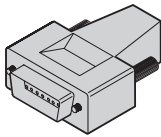
Specifications	LC 182	LC 192F	LC 192M																																				
Measuring standard Expansion coefficient	DIADUR glass scale with absolute track and incremental track $\alpha_{\text{therm}} \approx 8 \cdot 10^{-6} \text{ K}^{-1}$																																						
Accuracy grade*	$\pm 3 \mu\text{m}$ (up to measuring length 3040); $\pm 5 \mu\text{m}$																																						
Measuring length ML* in mm	<table border="1"> <tr> <td>140</td><td>240</td><td>340</td><td>440</td><td>540</td><td>640</td><td>740</td><td>840</td><td>940</td><td>1040</td><td>1140</td><td>1240</td> </tr> <tr> <td>1340</td><td>1440</td><td>1540</td><td>1640</td><td>1740</td><td>1840</td><td>2040</td><td>2240</td><td>2440</td><td>2640</td><td>2840</td><td>3040</td> </tr> <tr> <td>3240</td><td>3440</td><td>3640</td><td>3840</td><td>4040</td><td>4240</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>			140	240	340	440	540	640	740	840	940	1040	1140	1240	1340	1440	1540	1640	1740	1840	2040	2240	2440	2640	2840	3040	3240	3440	3640	3840	4040	4240						
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Absolute position values	EnDat 2.1	Serial interface – Fanuc 01	Mitsubishi high-speed serial interface																																				
Measuring step	Approx. $0.02 \mu\text{m}^{1)}$	Accuracy $\pm 3 \mu\text{m}$: $0.01 \mu\text{m}$; Accuracy $\pm 5 \mu\text{m}$: $0.05 \mu\text{m}$																																					
Calculation time t_{cal}	< 1 ms	–																																					
Incremental signals Grating period/signal period Cutoff frequency –3 dB	$\sim 1 \text{ V}_{\text{PP}}$ $20 \mu\text{m}$ $\geq 150 \text{ kHz}$	–																																					
Power supply	$5 \text{ V} \pm 5 \%$ / < 300 mA without load; remote sensing possible																																						
Electrical connection Max. cable length	Separate adapter cable (1 m/3 m/6 m/9 m) connectable to mounting block Upon request																																						
Traversing speed	$\leq 180 \text{ m/min}$																																						
Required moving force	$\leq 4 \text{ N}$																																						
Vibration 55 to 2000 Hz Shock 11 ms Acceleration	$\leq 200 \text{ m/s}^2$; starting from measuring length 3240: $\leq 150 \text{ m/s}^2$ (IEC 60068-2-6) $\leq 300 \text{ m/s}^2$ (IEC 60068-2-27) $\leq 100 \text{ m/s}^2$ in measuring direction																																						
Operating temperature	0 to 50°C																																						
Protection IEC 60529	IP 53 when installed correctly; IP 64 with compressed air from DA 300																																						
Weight	0.4 kg + 3.3 kg/m measuring length																																						

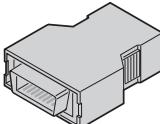
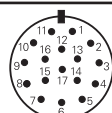
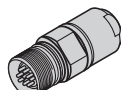
* Please indicate when ordering

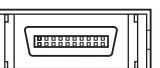
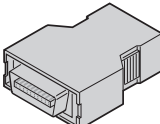
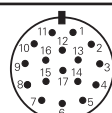
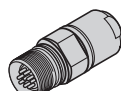
¹⁾ After 1024-fold interpolation of the incremental signals

Connecting elements and cables	LC 182	LC 192F	LC 192M
Adapter cable complete with M23 coupling (male), 17-pin Cable length 1 m/3 m/6 m/9 m Cable diameter 6 mm	Id. Nr. 369 124-xx 	Id. Nr. 343 421-xx 	
Connecting cable complete with M23 connector (female), 17-pin Cable diameter 8 mm	With D-sub connector (female) Id. Nr. 332 115-xx 	With Fanuc connector Id. Nr. 534 855-xx 	With Mitsubishi connector Id. Nr. 344 625-xx 
Connecting cable with one connector with M23 connector (female) Cable diameter 8 mm	Id. Nr. 309 77		

Electrical Connection

LC 182 17-pin coupling M23  15-pin D-sub connector, female, for HEIDENHAIN controls and IK 220 													
	Power supply					Incremental signals				Absolute position values			
	7	1	10	4	11	15	16	12	13	14	17	8	9
	1	9	2	11	13	3	4	6	7	5	8	14	15
	U _P	Sensor U _P	0V	Sensor 0V	Inside shield	A+	A-	B+	B-	DATA	DATA	CLOCK	CLOCK
	Brown/Green	Blue	White/Green	White	/	Green/Black	Yellow/Black	Blue/Black	Red/Black	Gray	Pink	Violet	Yellow

LC 192 F 20-pin Fanuc connector  17-pin coupling M23 									
	Power supply					Absolute position values			
	9	18/20	12	14	16	1	2	5	6
	7	1	10	4	–	14	17	8	9
	U _P	Sensor U _P	0V	Sensor 0V	Shield	Serial Data	Serial Data	Request	Request
	Brown/Green	Blue	White/Green	White	–	Gray	Pink	Violet	Yellow

LC 192 M 20-pin Mitsubishi connector  17-pin coupling M23 									
	Power supply					Absolute position values			