



KUEBLER - MAGNET SENSOR LI20 WITH MAGNETIC RING RI20

SERIE 8.LI20

- Robust and able to withstand vibration
- Easy to install
- High resolution
- IP67. Impervious to chips, oil, water, etc.



PRODUCT DESCRIPTION

The combination RI20/LI20 is used to measure length via a rotary shaft, e.g. in woodturning machines, materials handling, overhead cranes, etc. This sensor is more or less totally impervious to chips, oil, dust and water and thus can be used in troublesome environments, it is sealed and has no moving parts. The sensor is fitted to read on a yoke. This yoke is available for shaft dimensions 8-30 mm. There are three different yoke sizes; 31 mm, 41.2 mm and 45 mm.

The yoke RI20 has a pole distance of 2 mm. The distance between the sensor and the yoke should be 0.1 to 1.0 mm (recommended 0.4 mm). For the magnet sensor, the slope must not exceed $\pm 3^\circ$, the rotation must not exceed $\pm 3^\circ$ and the offset must not exceed ± 1 mm.

The following information is required to select the right combination:

- yoke size
- max. shaft rotation speed (given the frequency to following systems)

Pulses/revolution	Yoke	Magnet sensor	Max. revolutions (rpm)
250	RI20.031.XXXX	LI20.11X1.2005	12000
1000	RI20.031.XXXX	LI20.11X1.2020	2400
2500	RI20.031.XXXX	LI20.11X1.2050	3900
1024	RI20.041.XXXX	LI20.11X1.2016	7000
360	RI20.045.XXXX	LI20.11X1.2005	12000
3600	RI20.045.XXXX	LI20.11X1.2050	2700

Please refer to the images below for ordering information.

Order code Sensor head Limes LI20		8.LI20 . X1XX . 2XXX Type a b c d e				
a Model 1 = IP67, standard 2 = IP68 / IP69k and humidity tested acc. to EN 60068-3-38, EN 60068-3-78	b Output circuit / power supply 1 = RS422 / 4.8 ... 26 V DC 2 = Push-pull / 4.8 ... 30 V DC	c Type of connection 1 = cable, 2 m [6.56'] PUR A = radial cable, special length PUR *) *) Available special lengths (connection type A): 3, 5, 8, 10, 15 m [9.84, 16.40, 26.25, 32.80, 49.21'] order code expansion .XXXX = length in dm ex.: 8.LI20.111A.2005.0030 (for cable length 3 m)	d Reference signal 2 = Index periodical	e Interpolation factor 005, 016, 020, 050	Stock types 8.LI20.1111.2005 8.LI20.1111.2020 8.LI20.1111.2050 8.LI20.1121.2005 8.LI20.1121.2020 8.LI20.1121.2050	

Order code Magnetic ring RI20

8.RI20 . XXX . XXXX . 111
Type a b

Min. order quantity for non-stock types: 10 pieces

a Outer diameter

031 = 31 mm [1.22"]
041 = 41.2 mm [1.62"]
045 = 45 mm [1.77"]

b Bore diameter

0800 = 8 mm [0.32"] 1800 = 18 mm [0.71"] 0952 = 3/8"
1000 = 10 mm [0.39"] 2000 = 20 mm [0.79"] 1587 = 5/8"
1200 = 12 mm [0.47"] 2500 = 25 mm [0.98"]³⁾ 2540 = 1" ³⁾
1500 = 15 mm [0.59"] 3000 = 30 mm [1.18"]³⁾

Stock types

8.RI20.031.0800.111
8.RI20.031.1000.111
8.RI20.031.1200.111
8.RI20.031.1500.111
8.RI20.041.0800.111
8.RI20.045.1200.111
8.RI20.045.1500.111
8.RI20.045.2500.111
8.RI20.045.2540.111
8.RI20.045.3000.111

Order code	8.RI20 . XXX . XXXX . 111
Summa head Limes L120	
Model	1 = IP62 standard 2 = IP67/IP69 and humidity tested 3 = IP67/IP69 and humidity tested 4 = IP67/IP69 and humidity tested 5 = IP67/IP69 and humidity tested 6 = IP67/IP69 and humidity tested 7 = IP67/IP69 and humidity tested 8 = IP67/IP69 and humidity tested 9 = IP67/IP69 and humidity tested
Type of connection	1 = cable, 2 = 30 361 PWR 3 = 30 361 PWR 4 = 30 361 PWR 5 = 30 361 PWR 6 = 30 361 PWR 7 = 30 361 PWR 8 = 30 361 PWR 9 = 30 361 PWR
Reference signal	1 = Index periodical 2 = Index periodical 3 = Index periodical 4 = Index periodical 5 = Index periodical 6 = Index periodical 7 = Index periodical 8 = Index periodical 9 = Index periodical
Interpretation factor	000, 010, 020, 030 040, 050, 060, 070 080, 090, 100, 110 120, 130, 140, 150 160, 170, 180, 190 200, 210, 220, 230 240, 250, 260, 270 280, 290, 300, 310 320, 330, 340, 350 360, 370, 380, 390 400, 410, 420, 430 440, 450, 460, 470 480, 490, 500, 510 520, 530, 540, 550 560, 570, 580, 590 600, 610, 620, 630 640, 650, 660, 670 680, 690, 700, 710 720, 730, 740, 750 760, 770, 780, 790 800, 810, 820, 830 840, 850, 860, 870 880, 890, 900, 910 920, 930, 940, 950 960, 970, 980, 990 1000, 1010, 1020, 1030 1040, 1050, 1060, 1070 1080, 1090, 1100, 1110 1120, 1130, 1140, 1150 1160, 1170, 1180, 1190 1200, 1210, 1220, 1230 1240, 1250, 1260, 1270 1280, 1290, 1300, 1310 1320, 1330, 1340, 1350 1360, 1370, 1380, 1390 1400, 1410, 1420, 1430 1440, 1450, 1460, 1470 1480, 1490, 1500, 1510 1520, 1530, 1540, 1550 1560, 1570, 1580, 1590 1600, 1610, 1620, 1630 1640, 1650, 1660, 1670 1680, 1690, 1700, 1710 1720, 1730, 1740, 1750 1760, 1770, 1780, 1790 1800, 1810, 1820, 1830 1840, 1850, 1860, 1870 1880, 1890, 1900, 1910 1920, 1930, 1940, 1950 1960, 1970, 1980, 1990 2000, 2010, 2020, 2030 2040, 2050, 2060, 2070 2080, 2090, 2100, 2110 2120, 2130, 2140, 2150 2160, 2170, 2180, 2190 2200, 2210, 2220, 2230 2240, 2250, 2260, 2270 2280, 2290, 2300, 2310 2320, 2330, 2340, 2350 2360, 2370, 2380, 2390 2400, 2410, 2420, 2430 2440, 2450, 2460, 2470 2480, 2490, 2500, 2510 2520, 2530, 2540, 2550 2560, 2570, 2580, 2590 2600, 2610, 2620, 2630 2640, 2650, 2660, 2670 2680, 2690, 2700, 2710 2720, 2730, 2740, 2750 2760, 2770, 2780, 2790 2800, 2810, 2820, 2830 2840, 2850, 2860, 2870 2880, 2890, 2900, 2910 2920, 2930, 2940, 2950 2960, 2970, 2980, 2990 3000, 3010, 3020, 3030 3040, 3050, 3060, 3070 3080, 3090, 3100, 3110 3120, 3130, 3140, 3150 3160, 3170, 3180, 3190 3200, 3210, 3220, 3230 3240, 3250, 3260, 3270 3280, 3290, 3300, 3310 3320, 3330, 3340, 3350 3360, 3370, 3380, 3390 3400, 3410, 3420, 3430 3440, 3450, 3460, 3470 3480, 3490, 3500, 3510 3520, 3530, 3540, 3550 3560, 3570, 3580, 3590 3600, 3610, 3620, 3630 3640, 3650, 3660, 3670 3680, 3690, 3700, 3710 3720, 3730, 3740, 3750 3760, 3770, 3780, 3790 3800, 3810, 3820, 3830 3840, 3850, 3860, 3870 3880, 3890, 3900, 3910 3920, 3930, 3940, 3950 3960, 3970, 3980, 3990 4000, 4010, 4020, 4030 4040, 4050, 4060, 4070 4080, 4090, 4100, 4110 4120, 4130, 4140, 4150 4160, 4170, 4180, 4190 4200, 4210, 4220, 4230 4240, 4250, 4260, 4270 4280, 4290, 4300, 4310 4320, 4330, 4340, 4350 4360, 4370, 4380, 4390 4400, 4410, 4420, 4430 4440, 4450, 4460, 4470 4480, 4490, 4500, 4510 4520, 4530, 4540, 4550 4560, 4570, 4580, 4590 4600, 4610, 4620, 4630 4640, 4650, 4660, 4670 4680, 4690, 4700, 4710 4720, 4730, 4740, 4750 4760, 4770, 4780, 4790 4800, 4810, 4820, 4830 4840, 4850, 4860, 4870 4880, 4890, 4900, 4910 4920, 4930, 4940, 4950 4960, 4970, 4980, 4990 5000, 5010, 5020, 5030 5040, 5050, 5060, 5070 5080, 5090, 5100, 5110 5120, 5130, 5140, 5150 5160, 5170, 5180, 5190 5200, 5210, 5220, 5230 5240, 5250, 5260, 5270 5280, 5290, 5300, 5310 5320, 5330, 5340, 5350 5360, 5370, 5380, 5390 5400, 5410, 5420, 5430 5440, 5450, 5460, 5470 5480, 5490, 5500, 5510 5520, 5530, 5540, 5550 5560, 5570, 5580, 5590 5600, 5610, 5620, 5630 5640, 5650, 5660, 5670 5680, 5690, 5700, 5710 5720, 5730, 5740, 5750 5760, 5770, 5780, 5790 5800, 5810, 5820, 5830 5840, 5850, 5860, 5870 5880, 5890, 5900, 5910 5920, 5930, 5940, 5950 5960, 5970, 5980, 5990 6000, 6010, 6020, 6030 6040, 6050, 6060, 6070 6080, 6090, 6100, 6110 6120, 6130, 6140, 6150 6160, 6170, 6180, 6190 6200, 6210, 6220, 6230 6240, 6250, 6260, 6270 6280, 6290, 6300, 6310 6320, 6330, 6340, 6350 6360, 6370, 6380, 6390 6400, 6410, 6420, 6430 6440, 6450, 6460, 6470 6480, 6490, 6500, 6510 6520, 6530, 6540, 6550 6560, 6570, 6580, 6590 6600, 6610, 6620, 6630 6640, 6650, 6660, 6670 6680, 6690, 6700, 6710 6720, 6730, 6740, 6750 6760, 6770, 6780, 6790 6800, 6810, 6820, 6830 6840, 6850, 6860, 6870 6880, 6890, 6900, 6910 6920, 6930, 6940, 6950 6960, 6970, 6980, 6990 7000, 7010, 7020, 7030 7040, 7050, 7060, 7070 7080, 7090, 7100, 7110 7120, 7130, 7140, 7150 7160, 7170, 7180, 7190 7200, 7210, 7220, 7230 7240, 7250, 7260, 7270 7280, 7290, 7300, 7310 7320, 7330, 7340, 7350 7360, 7370, 7380, 7390 7400, 7410, 7420, 7430 7440, 7450, 7460, 7470 7480, 7490, 7500, 7510 7520, 7530, 7540, 7550 7560, 7570, 7580, 7590 7600, 7610, 7620, 7630 7640, 7650, 7660, 7670 7680, 7690, 7700, 7710 7720, 7730, 7740, 7750 7760, 7770, 7780, 7790 7800, 7810, 7820, 7830 7840, 7850, 7860, 7870 7880, 7890, 7900, 7910 7920, 7930, 7940, 7950 7960, 7970, 7980, 7990 8000, 8010, 8020, 8030 8040, 8050, 8060, 8070 8080, 8090, 8100, 8110 8120, 8130, 8140, 8150 8160, 8170, 8180, 8190 8200, 8210, 8220, 8230 8240, 8250, 8260, 8270 8280, 8290, 8300, 8310 8320, 8330, 8340, 8350 8360, 8370, 8380, 8390 8400, 8410, 8420, 8430 8440, 8450, 8460, 8470 8480, 8490, 8500, 8510 8520, 8530, 8540, 8550 8560, 8570, 8580, 8590 8600, 8610, 8620, 8630 8640, 8650, 8660, 8670 8680, 8690, 8700, 8710 8720, 8730, 8740, 8750 8760, 8770, 8780, 8790 8800, 8810, 8820, 8830 8840, 8850, 8860, 8870 8880, 8890, 8900, 8910 8920, 8930, 8940, 8950 8960, 8970, 8980, 8990 9000, 9010, 9020, 9030 9040, 9050, 9060, 9070 9080, 9090, 9100, 9110 9120, 9130, 9140, 9150 9160, 9170, 9180, 9190 9200, 9210, 9220, 9230 9240, 9250, 9260, 9270 9280, 9290, 9300, 9310 9320, 9330, 9340, 9350 9360, 9370, 9380, 9390 9400, 9410, 9420, 9430 9440, 9450, 9460, 9470 9480, 9490, 9500, 9510 9520, 9530, 9540, 9550 9560, 9570, 9580, 9590 9600, 9610, 9620, 9630 9640, 9650, 9660, 9670 9680, 9690, 9700, 9710 9720, 9730, 9740, 9750 9760, 9770, 9780, 9790 9800, 9810, 9820, 9830 9840, 9850, 9860, 9870 9880, 9890, 9900, 9910 9920, 9930, 9940, 9950 9960, 9970, 9980, 9990 10000, 10010, 10020, 10030 10040, 10050, 10060, 10070 10080, 10090, 10100, 10110 10120, 10130, 10140, 10150 10160, 10170, 10180, 10190 10200, 10210, 10220, 10230 10240, 10250, 10260, 10270 10280, 10290, 10300, 10310 10320, 10330, 10340, 10350 10360, 10370, 10380, 10390 10400, 10410, 10420, 10430 10440, 10450, 10460, 10470 10480, 10490, 10500, 10510 10520, 10530, 10540, 10550 10560, 10570, 10580, 10590 10600, 10610, 10620, 10630 10640, 10650, 10660, 10670 10680, 10690, 10700, 10710 10720, 10730, 10740, 10750 10760, 10770, 10780, 10790 10800, 10810, 10820, 10830 10840, 10850, 10860, 10870 10880, 10890, 10900, 10910 10920, 10930, 10940, 10950 10960, 10970, 10980, 10990 11000, 11010, 11020, 11030 11040, 11050, 11060, 11070 11080, 11090, 11100, 11110 11120, 11130, 11140, 11150 11160, 11170, 11180, 11190 11200, 11210, 11220, 11230 11240, 11250, 11260, 11270 11280, 11290, 11300, 11310 11320, 11330, 11340, 11350 11360, 11370, 11380, 11390 11400, 11410, 11420, 11430 11440, 11450, 11460, 11470 11480, 11490, 11500, 11510 11520, 11530, 11540, 11550 11560, 11570, 11580, 11590 11600, 11610, 11620, 11630 11640, 11650, 11660, 11670 11680, 11690, 11700, 11710 11720, 11730, 11740, 11750 11760, 11770, 11780, 11790 11800, 11810, 11820, 11830 11840, 11850, 11860, 11870 11880, 11890, 11900, 11910 11920, 11930, 11940, 11950 11960, 11970, 11980, 11990 12000, 12010, 12020, 12030 12040, 12050, 12060, 12070 12080, 12090, 12100, 12110 12120, 12130, 12140, 12150 12160, 12170, 12180, 12190 12200, 12210, 12220, 12230 12240, 12250, 12260, 12270 12280, 12290, 12300, 12310 12320, 12330, 12340, 12350 12360, 12370, 12380, 12390 12400, 12410, 12420, 12430 12440, 12450, 12460, 12470 12480, 12490, 12500, 12510 12520, 12530, 12540, 12550 12560, 12570, 12580, 12590 12600, 12610, 12620, 12630 12640, 12650, 12660, 12670 12680, 12690, 12700, 12710 12720, 12730, 12740, 12750 12760, 12770, 12780, 12790 12800, 12810, 12820, 12830 12840, 12850, 12860, 12870 12880, 12890, 12900, 12910 12920, 12930, 12940, 12950 12960, 12970, 12980, 12990 13000, 13010, 13020, 13030 13040, 13050, 13060, 13070 13080, 13090, 13100, 13110 13120, 13130, 13140, 13150 13160, 13170, 13180, 13190 13200, 13210, 13220, 13230 13240, 13250, 13260, 13270 13280, 13290, 13300, 13310 13320, 13330, 13340, 13350 13360, 13370, 13380, 13390 13400, 13410, 13420, 13430 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14920, 14930, 14940, 14950 14960, 14970, 14980, 14990 15000, 15010, 15020, 15030 15040, 15050, 15060, 15070 15080, 15090, 15100, 15110 15120, 15130, 15140, 15150 15160, 15170, 15180, 15190 15200, 15210, 15220, 15230 15240, 15250, 15260, 15270 15280, 15290, 15300, 15310 15320, 15330, 15340, 15350 15360, 15370, 15380, 15390 15400, 15410, 15420, 15430 15440, 15450, 15460, 15470 15480, 15490, 15500, 15510 15520, 15530, 15540, 15550 15560, 15570, 15580, 15590 15600, 15610, 15620, 15630 15640, 15650, 15660, 15670 15680, 15690, 15700, 15710 15720, 15730, 15740, 15750 15760, 15770, 15780, 15790 15800, 15810, 15820, 15830 15840, 15850, 15860, 15870 15880, 15890, 15900, 15910 15920, 15930, 15940, 15950 15960, 15970, 15980, 15990 16000, 16010, 16020, 16030 16040, 16050, 16060, 16070 16080, 16090, 16100, 16110 16120, 16130, 16140, 16150 16160, 16170, 16180, 16190 16200, 16210, 16220, 16230 16240, 16250, 16260, 16270 16280, 16290, 16300, 16310 16320, 16330, 16340, 16350 16360, 16370, 16380, 16390 16400, 16410, 16420, 16430 16440, 16450, 16460, 16470 16480, 16490, 16500, 16510 16520, 16530, 16540, 16550 16560, 16570, 16580, 16590 16600, 16610, 16620, 16630 16640, 16650, 16660, 16670 16680, 16690, 16700, 16710 16720, 16730, 16740, 16750 16760, 16770, 16780, 16790 16800, 16810, 16820, 16830 16840, 16850, 16860, 16870 16880, 16890, 16900, 16910 16920, 16930, 16940, 16950 16960, 16970, 16980, 16990 17000, 17010, 17020, 17030 17040, 17050, 17060, 17070 17080, 17090, 17100, 17110 17120, 17130, 17140, 17150 17160, 17170, 17180, 17190 17200, 17210, 17220, 17230 17240, 17250, 17260, 17270 17280, 17290, 17300, 17310 17320, 17330, 17340, 17350 17360, 17370, 17380, 17390 17400, 17410, 17420, 17430 17440, 17450, 17460, 17470 17480, 1