



SONY

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Digital Readout Systems



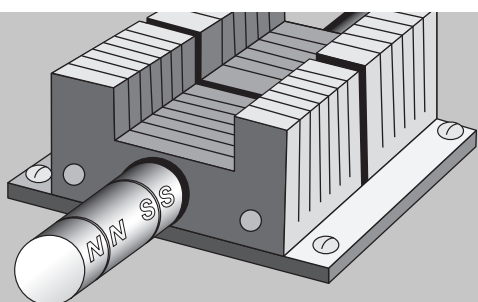
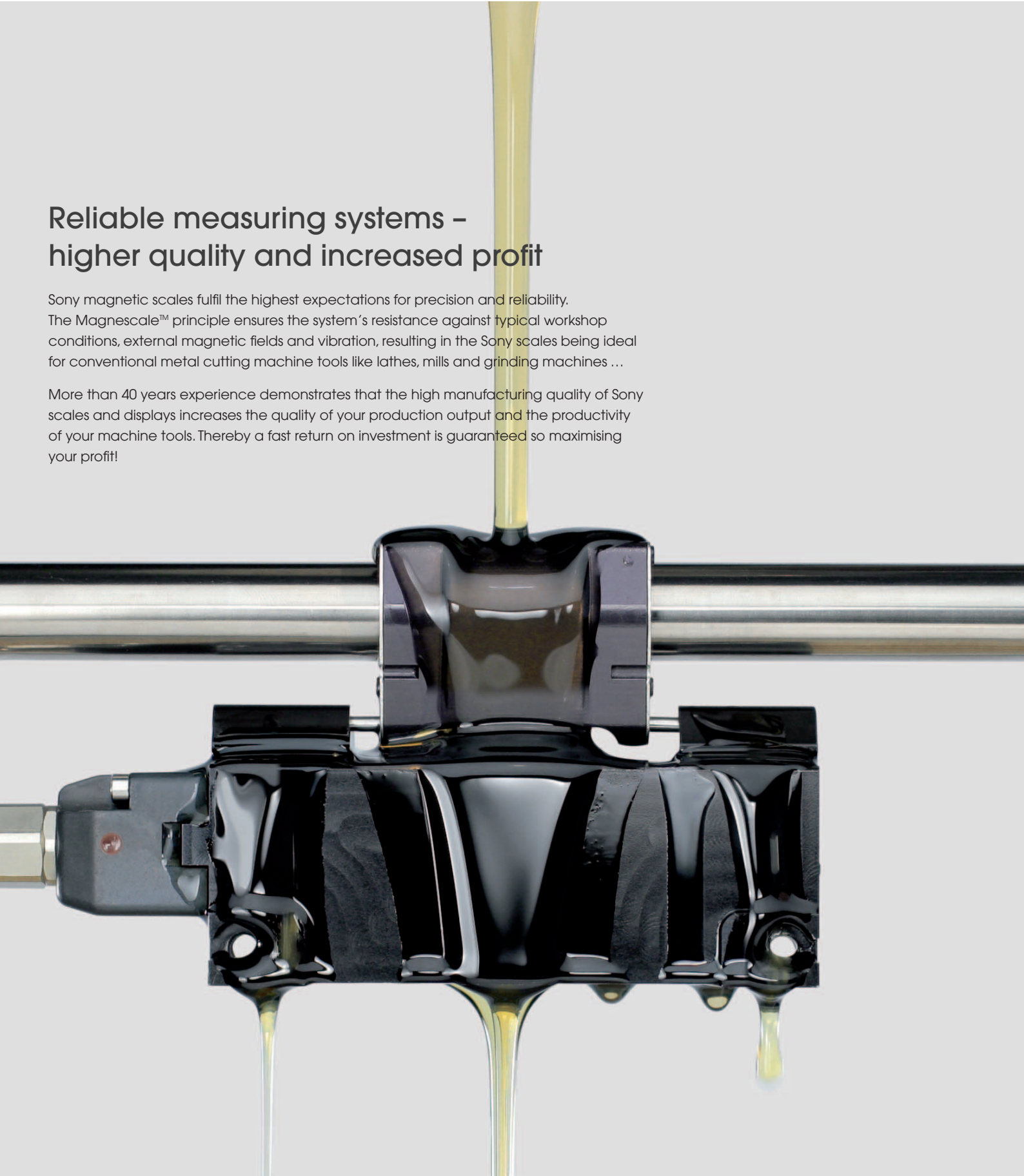
Magnescale™

Tel: +49 711 5858-777
E-Mail: smse-mp@eu.sony.com
www.sonymanufacturing.com

Reliable measuring systems – higher quality and increased profit

Sony magnetic scales fulfil the highest expectations for precision and reliability. The Magnescale™ principle ensures the system's resistance against typical workshop conditions, external magnetic fields and vibration, resulting in the Sony scales being ideal for conventional metal cutting machine tools like lathes, mills and grinding machines ...

More than 40 years experience demonstrates that the high manufacturing quality of Sony scales and displays increases the quality of your production output and the productivity of your machine tools. Thereby a fast return on investment is guaranteed so maximising your profit!



The advantages of magnetic scales:

- resistant to oil, water and dust
- compact design
- easy installation

Suited to a wide range of machine applications:

- | | | |
|---------------------|--------------------------------|----------------------|
| ■ grinding machines | ■ milling machines | ■ measuring machines |
| ■ lathes | ■ special machine applications | |
| ■ drilling machines | ■ measuring fixtures | |

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Digital readouts – compact intelligence



Multifunction unit LG20 / LH70/71 series

The new multifunction LH70 series has been particularly designed and developed for cost-efficient retrofitting of manual machine tools. The LH70 display combines popular, easy to use functions for both Mills and

Lathes in one unit and can therefore be used on all machine applications. The new display LG20 provides simple "reset/preset" functions.

milling machine – console F



lathes – console D



Multifunction units LG20 / LH70/71 series

	LG20	LH70	LH71
Display axes	1, 2, 3		
Display	7 digits, orange LEDs, floating minus sign		
Display resolution	0,1/0,5/1/5/10 μm	0,1/0,5/1/5/10 μm 1 s/10 s/ 1 min/10 min	
Input signal	TTL line driver RS422		
Compatible measuring systems	SJ300, GB-ER, SJ700A and PL20C		
Power supply	DC12 V using separate power supply unit PSC23 with 100 – 240 V		
Weight	1.5 kg		

Functions at a glance

Model	LH70	LH71	LG20
Reset	■	■	■
Preset	■	■	■
Absolute/Incremental	■	■	
Diameter display	■	■	■
Angle display	■	■	
Alarm display	■	■	■
Zero point detection	■	■	
Datum points	10	150	
Tool memory*	12	99	
Midpoint calculation	■	■	
Scaling		■	
Addition function*	■	■	
Programming function		■	
Bolt hole circle	■	■	
Line hole		■	
Simple R cutting	■	■	
Linear error compensation	■	■	■
Segment error compensation		■	
Data storage	■	■	■
Energy saving function	■	■	■
Navigation function	■	■	

* only 3 axis display

Precision scales for retrofitting

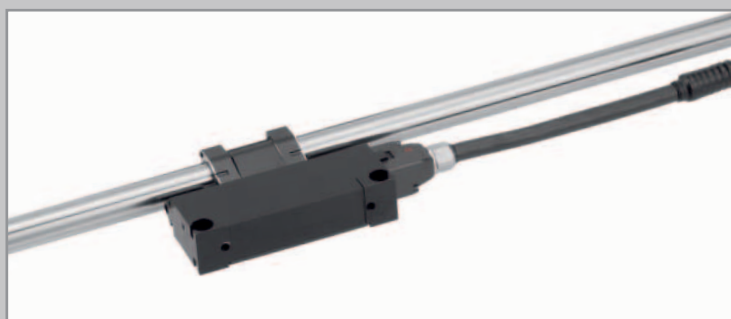
GB-ER series, 0.5 μm resolution, reference point

Renowned for its precision and robustness thanks to the Sony Magnescale™ Technology. It's the compact series for retrofitting to high precision machine tools, perfect for lathes and grinding machines.



SJ300 series, 1 μm resolution

Scales for cost-efficient retrofitting with the proven Magnescale™ principle. It features a unique flexible head and new scale fixing system making it extremely easy to install without any need for additional mounting spar and therefore very cost effective. Ideal for retrofitting of milling machines.



SJ700A series, 5 μm resolution

Tough standard scale for retrofitting of machine tools. The Magnescale™ principle and the high quality guarantee a long product life.



SL110 series, 10 μm resolution

The Digiruler™ series is extremely tough and resistant against workshop conditions. Reading head and scale work, using the tried and tested Magnescale™ principle, absolutely contactless and therefore very reliably.



SL130 series, 10 μm resolution

The Digiruler™ SL130 is a flexible steel band, simply mounted onto the machine with adhesive tape. Based on Sony's well known Magnescale™ Technology it is available in measuring lengths up to 30 m and can therefore be easily and cost effectively retrofitted to large lathes and sawing machines.



Precision scales for retrofitting at a glance



Model	GB-ER				SJ300			SJ700A			SL110	SL130	
Measuring length (mm)	50/	250/300/	950/	2050/ 2200	50/	250/300/	950/	150/	950/	1400/ 1600/	200/300/	200/300/400/	8000/
	100/	350/400/	1050/		100/	350/400/	1050/	250/	1050/		400/500/	500/1000/	9000/
	150/	450/500/	1250/		150/	450/500/	1250/	350/	1250/		600/700/	1200/1500/	10000/
	200	550/600/	1400/		200	550/600/	1400/	400/			800/1000/	1600/1700/	20000/
		650/750/	1600/			650/750/	1600/	500/			1200/1500/	1800/2000/	30000/
		850	1850			800/850	1850/	650/			1600/1700/	2500/3000/	
								2050/	800/			1800/2000	4000/5000/
						2200					6000/7000		
Overall length	from ML=250; L+120 mm				L + 158 mm			L + 120 mm			L + 103 mm	L + 100 mm	
Resolution**	0.5 µm				1 µm			5 µm			10 µm		
Accuracy at 20 °C	± 5 µm				±10 µm			±10 µm ±15 µm			± (25 + 5 L/1000) µm		± (25 + 5 L/ 1000 + 10 N) µm L = 8 000, N = 1 L = 9 000, N = 1 L = 10 000, N = 1 L = 20 000, N = 2 L = 30 000, N = 3
Response speed	up to 60 m/min				up to 60 m/min			up to 60 m/min			up to 300 m/min		
Operating temperature	0 °C to 40 °C				0 °C to 45 °C			0 °C to 40 °C			0 °C to 45 °C		
Storage temperature	-10 °C to 50 °C				-20 °C to 60 °C			-10 °C to 50 °C			-10 °C to 50 °C		
IP grade	IP 54				IP 64			IP 54			PL20C reading head IP67		
Connecting cable	CH04-03C incl.*				CH33, order separately*			3 m incl.*	5 m incl.*	Reading head PL20C needs to be ordered separately*			
Extension cable	CE10-□□C (3/5/10 m)* Example: CE10-05C = 5 m cable length				-			-					

* Armoured cable

** Output signal: TTL line driver (RS422)

Reading head PL20C



Model	PL20C
	-3C -5C -10C -15C -20C
Resolution	10 µm
Max. response speed	300 m/min
Distance scale-reading head	max. 1.5 mm (no contact)
Protective design grade	equivalent to IP67
Operating temperature	-5 °C to 45 °C
Storage temperature	-10 °C to 50 °C
Compatible scale	SL110 and SL130
Armoured cable	yes
Compatible display	LG20 / LH70/71
Reading head cable length	3 m / 5 m / 10 m / 15 m / 20 m

Cable CH33 series for SJ300, armoured

Cable name	Length (m)	Material
CH33-03CPD	3	PVC
CH33-05CPD	5	PVC
CH33-10CPD	10	PVC
CH33-03CED	3	PU
CH33-05CED	5	PU
CH33-10CED	10	PU

How to order

1. Digital display



series number of axes (1, 2 or 3)

e.g. **LH70-3**

digital display LH70 with 3 axes

2. Scales



series ML in cm

e.g. **GB-50ER**

Scale GB-ER with 500 mm measuring length
(connecting cable included)



series ML in cm

e.g. **SJ300-160 + CH33-05CPD**

scale SJ300 with 1600 mm ML plus connecting cable CH33
with 5 m length PVC, armoured



series ML in cm

e.g. **SJ700A-160**

SJ700A with 1600 mm measuring length (connecting cable included)



series length of connecting cable

e.g. **CH33-05CPD**

connecting cable CH33
with 5 m length PVC, armoured



series ML in cm

series Length of connecting cable

(3 m / 5 m / 10 m / 15 m / 20 m)

e.g. **SL110-150 + PL20C-5C**

SL110 with 1500 mm measuring length plus connecting cable
PL20C with 5 m length and armour



series ML in cm

series Length of connecting cable

(3 m / 5 m / 10 m / 15 m / 20 m)

Example see SL110

(ML = Measuring length)

Example of order for retrofitting of a milling machine:

Digital display LH71-**3** (3 axes)

1 x SJ300-**35**

Scale with 350 mm

1 x SJ300-**45**

Scale with 450 mm

1 x SJ300-**55**

Scale with 550 mm

3 x CH33-**05**CPD

Connecting cable 5 m, armoured

1 x PSC-23

Power supply unit

Example of order for retrofitting of a lathe:

Digital display LH71-**3** (3 axes)

1 x GB-**25**ER

Scale with 250 mm

1 x GB-**35**ER

Scale with 350 mm

1 x SL110-**160**

Scale with 1600 mm

1 x PL20C-3C

Connecting cable 3 m, armoured

1 x PSC-23

Power supply unit

GeBoTechGmbH

Industriestraße 24 77815 Bühl

Tel. 07223/91249-30 Fax. 07223/91249-59

www.gebotech.de info(at)gebotech.de