



Ditron[®]

成都鼎创光电设备有限公司
Chengdu Ditron Opto-Electronic Co., Ltd.

www.cnditron.cn
www.dcoee.com



公司简介

成都鼎创光电设备有限公司（Ditron O&E）是一家专业从事光栅数显系统研发、生产及销售的企业

鼎创的团队有着光栅数显行业十多年的丰富经验，结合了国内外先进技术，研制出了一系列可靠耐用、质优价廉的产品，同时鼎创人也确切地体会到，除了拥有优质可靠的产品之外，有效及时的技术支持也是十分关键。一支经验丰富、技术高超的服务团队是公司生存发展的关键所在，如何协助客户提高生产率、提升生产效能，是鼎创公司所有产品研发及服务计划的核心。

鼎创生产的光栅数显系统，用户遍及全球各地，质量稳定，价格合理，深受用户好评。鼎创产品已通过ISO9000质量体系认证、RoHS和CE欧洲安全标准认证及行业标准，在此基础上，我们将更加努力提升产品质量，持续改进和优化产品结构。随着工业的发展，业界对产品的要求愈来愈高，为了能达到业界的要求，在未来，鼎创将继续专注于发展新技术，改进生产系统，增加产品系列的多元性并提升产品质量为目标。

公司重合同、守信用，优质的产品、优惠的价格、完善的售后服务，真诚欢迎广大客户携手合作，创造未来。

COMPANY INTRODUCTION

Chengdu Ditron Optics & Electronics Equipment Ltd. is a professional company which has a grating digital system of research and development, products and sales etc.

Our group has more than 10 years' experience in the field of grating, digital readout. By using highly advanced technology of domestic and overseas, we had developed a series of products which are reliable, durable, high quality at a reasonable price; at the mean time, we understand that it is very crucial to have effective and timely technical support besides holding high quality and reliable products. So we do our best to be a well experienced and highly excellent technical service team, and work hard to survive our company in this modern scientific era and for competitive with other well developed companies of the world.

The Grating system of Ditron is used by many clients from all over the world. As the stable quality and reasonable prices, we have got many good comments from them. And our products have got the certification of ISO9000, RoHS and CE2000. With the developing of the industry, we know that the standard of every product would be higher and higher, so for the best, our Ditron group would work harder to keep on (pay attention to) paying our attention on developing new technology, improving production, supplying more diversified products and promoting the quality in the future.

We stress contracts and keep promises, we would supply you the high quality, reasonable price and perfect after-sales service system. We sincerely welcome all of you can cooperate with us, and create a bright future.

D60系列数显表

D60-2V多功能型数显表 (适用于2轴铣床、镗床、龙门铣床、车床、磨床)
D60-3V多功能型数显表 (适用于3轴铣床、镗床、龙门铣床、车床、火花机)
D60-2M数显表 (适用于2轴铣床、镗床、龙门铣床)
D60-3M数显表 (适用于3轴铣床、镗床、龙门铣床)
D60-3E火花机专用数显表
D501-1V单轴数显表

D60 series DRO

D60-2V: Multiple function digital readout system for 2axis machines (milling machine, boring machine, lathe machine, grinding machine)

D60-3V: Full-function digital readout be used for all 3axis machines (milling machine, boring machine, lathe machine, grinding machine, electronic spark machine)

D60-2M/3M: be used for 2axis/3axis milling machine and boring machine.

D60-3E: be used for 3 axis electronic spark machine.

DC系列光栅尺

DC10通用型光栅尺 分辨率有: 10 μ m、5 μ m、1 μ m、0.5 μ m、0.25 μ m、0.1 μ m
DC10F微型光栅尺 分辨率有: 5 μ m、1 μ m、0.5 μ m
DC20大型光栅尺 分辨率有: 5 μ m、1 μ m、0.5 μ m
DC10K宽电压型光栅尺, 供电电压5V-36V 分辨率有: 5 μ m、1 μ m、0.5 μ m

DC series Linear Scale

DC10: Universal type linear scale

Resolution: 10 μ m, 5 μ m, 1 μ m, 0.5 μ m, 0.25 μ m, 0.1 μ m

DC10F: the series of Micro-linear scale

Resolution: 5 μ m, 1 μ m, 0.5 μ m

DC20: Long range type Linea scale

Resolution: 5 μ m, 1 μ m, 0.5 μ m

DC10K: Variable voltage type linear scale; power supply: 5-36V

Resolution: 5 μ m, 1 μ m, 0.5 μ m



DM 系列磁栅尺

DM magnetic scale

D30系列微位移传感器

D305短量程型 范围0-5mm
D315普通量程型 测量范围0-15mm
D330普通量程型 测量范围0-30mm
D350大量程型 测量范围0-50mm

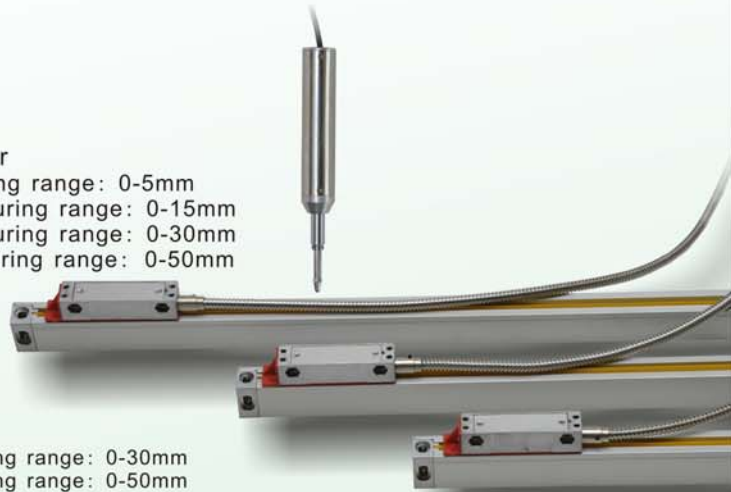
D30 Micro-displacement sensor

D305 short range type: measuring range: 0-5mm

D315 general range type: measuring range: 0-15mm

D330 general range type: measuring range: 0-30mm

D350 large range type: measuring range: 0-50mm



D40系列光栅测微仪

D430光栅测微仪 测量范围0-30mm
D450光栅测微仪 测量范围0-50mm

D40 Grating micrometer

D430 Grating micrometer: measuring range: 0-30mm

D450 Grating micrometer: measuring range: 0-50mm



D60系列数显表

D60系列数显表技术参数

- 1、电压范围：AC 80V-260V/50HZ-60HZ
- 2、功耗：20VA
- 3、坐标数：1/2/3
- 4、显示：带符号7位显示
- 5、倍频数：4X
- 6、数显表允许输入信号：TTL方波和EIA-422-A
- 7、允许输入信号频率：>100KHZ
- 8、长度分辨率：10 μ m、5 μ m、1 μ m、0.5 μ m、0.1 μ m
- 9、操作键盘：轻触键盘
- 10、接入的光栅尺栅距为0.04mm、0.02mm、0.01mm，供电电源为+5V，输出两路或四路相差90°的TTL方波信号



The technical parameter of DRO-D60

1. Voltage range: AC 80V-260V/50HZ-60HZ
2. Power dissipation: 20VA
3. Coordinate number: 1/2/3
4. Display: 7 bit display with signed
5. Times frequency: 4X
6. Readout box input signal: TTL,ELA-422-A
7. Input frequency:>100KHZ
8. Resolution:10 μ m, 5 μ m, 1 μ m, 0.5 μ m, 0.1 μ m
9. Operating keyboard: light touch buttons
10. Linear scale Grating space: 0.04mm, 0.02mm, 0.01mm, power supply is +5V.the difference between two and four TTL output signal is 90° .



D60系列数显表功能介绍

圆周钻孔功能

数显表能够根据操作者输入的数据自动计算各孔的位置。

线性钻孔功能

相对于坐标轴的任意角度，只要孔间距保持固定数值，数显表可以根据操作者的输入计算存储各孔位置。

刀具半径补偿

在使用圆柱刀架铣削加工时，刀具半径必须纳入计算，计算值的增加或减少根据加工的方向决定，一旦刀具数值输入，该数值会被数显表保存。

工件中心确定

仅通过刀具或者探针接触工件的两点，数显表可计算出工件中心。

多达200个坐标记忆功能

在重复加工同一工件时，该功能使加工变得容易，也可以存储刀具数值，给操作者带来极大方便。

圆角圆弧加工

适合简单的圆角加工和两轴间的圆弧面加工。

函数计算器功能

计算器功能可有效提高操作工作效率。

斜率计算

通过输入工件的两个点，数显表可以算出工件的斜率。

Z轴组合计算

数显表的Z轴显示行可显示为两个平行轴的组合位移。

数值预置

预置工件的直径。

线性误差补偿功能/非线性误差补偿

补偿功能保证了机床的绝对精度和最大效率。多点补偿功能可减少机床误差。

数值过滤功能

EDM深度控制功能

能有效辅助机床进行深度控制。



D60 Function introduction

1. Circular drilling function: Digital readout can automatically calculate the location of the hole according to the inputted data
2. Linear drilling function: Opposite to the axis of any angle, only the hole spacing remain fixed value, The DRO can calculate the location of the hole according to the inputted data
3. Tool radius compensation: In the use of cylindrical milling tool carrier, the tool radius must be taken into account. The direction of process will decide the increase or decrease of calculated value. Once the tool number is inputted, the DRO value will be saved.
4. Determine the workpiece center Only through the tool or touching the two points of workpiece, the DRO can calculate the workpiece center
5. 200 sets tool base: while repeat the same process in the workpiece, you can store the tool value which will be convenience to the operator
6. Round arc processing: sample round processing and two axis arc processing
7. Function calculator: calculator function can improve operation efficiently
8. Slope calculation: input the two points of workpiece, the DRO can calculate the slope of the workpiece.
9. Z-axis combination calculation: Z-axis can display the combination displacement of two parallel axis
10. Preset value: preset the radius of workpiece
11. Linear scale error compensation or non-linear scale error compensation: compensation to ensure absolute precision and maximum efficiency. Multi-point compensation can reduce the machine error
12. Numerical filtering function
13. EDM depth control: can assist tool make depth control efficiently

D60-2V为多功能2坐标数显表，该表根据使用机床的不同，修改参数便可以切换到相应的功能，具备了很多图形加工功能，分别有铣床专用的R圆弧功能、等分圆功能、斜面加工功能、斜线打孔功能、渐进内腔加工功能，火花机专用的EDM功能，车床专用的刀具库功能、锥度测量功能等，有了这些功能的辅助，可以大大减少加工难度

基本功能

200点辅助零位；函数计算器功能（适用于：铣床）；
掉电记忆；非线性误差补偿和线性误差补偿功能；
分中功能；公/英制转换功能。

加工功能

PCD圆周分孔（适用于：铣床、火花机）
斜线打孔（适用于：铣床）
渐进内腔加工功能（适用于：铣床）；
去抖动功能（适用于：磨床）；
斜面加工（适用于：铣床）；
R圆弧功能（适用于：铣床）；
N3功能（适用于：铣床）；
200刀具库（适用于：车床）；
锥度测量功能（适用于：车床）；
RS-232通讯功能（需要单独订购）

D60-2V is a 2 axis multi-function digital readout which is used for different machines by setting the parameters. It has a lot of graphics processing capabilities. For example: including special function only for milling machine (R arc function, parts round function, slope processing function, slash drilling function, progressive cavity processing), special function only for EDM machine, special function only for lathe machine (tool library function, taper measurement function and so on). With the help of these functions, it can greatly reduce the difficulty of processing graphics.

Basic function:

1. 200 points auxiliary zero;
2. Function calculator(only for milling machine) ;
3. Power-down memory;
4. Linear error compensation and Non-linear error compensation ;
5. 1/2 function;
6. Mm/inch mode.

Processing function:

1. PCD function (for milling machine and EDM cutting machine) ;
2. Linear drilling (for milling machine) ;
3. Progressive cavity processing (for milling machine) ;
4. Display filter (for grinding machine) ;
5. Machining of oblique plane (for milling machine) ;
6. R arc function (for milling machine) ;
7. N3 function (for milling machine) ;
8. 200 sets tool base (for lathe machine) ;
9. Taper function (for lathe machine) ;
10. RS-232 communication (order separately)



D60-3V为多功能3坐标数显表，该表根据使用机床的不同，修改参数便可以切换到相应的功能，具备了很多图形加工功能，分别有铣床专用的R圆弧功能、等分圆功能、斜面加工功能、斜线打孔功能，火花机专用的EDM功能，车床专用的刀具库功能、锥度测量功能等，有了这些功能的辅助，可以大大减少加工难度。

基本功能

200点辅助零位；函数计算器功能（适用于：铣床）；
掉电记忆；非线性误差补偿和线性误差补偿功能；
分中功能；公/英制转换功能。

加工功能

PCD圆周分孔（适用于：铣床、火花机）
斜线打孔（适用于：铣床）
刀补功能（适用于：铣床）；
锥度测量功能（适用于：车床）；
斜面加工（适用于：铣床）；
R圆弧功能（适用于：铣床）；
200刀具库（适用于：车床）；
EDM功能（适用于：火花机，需要单独订购）
RS-232通讯功能（需要单独订购）；

D60-3V is one new design of 3 coordinates' multi-function digital readout, when we use it for different machines, just need to modify the parameters, then you can switch out the corresponding function. It has a lot of graphics processing functions: functions for milling machine (R arc function, equal portions round functions, slope processing functions, bore on oblique line), functions for electronic sparking machine (EDM function), functions for lathe machine (tool library functions, taper measurement function?). with the help of these functions, it can greatly reduce the difficulty of processing graphics.

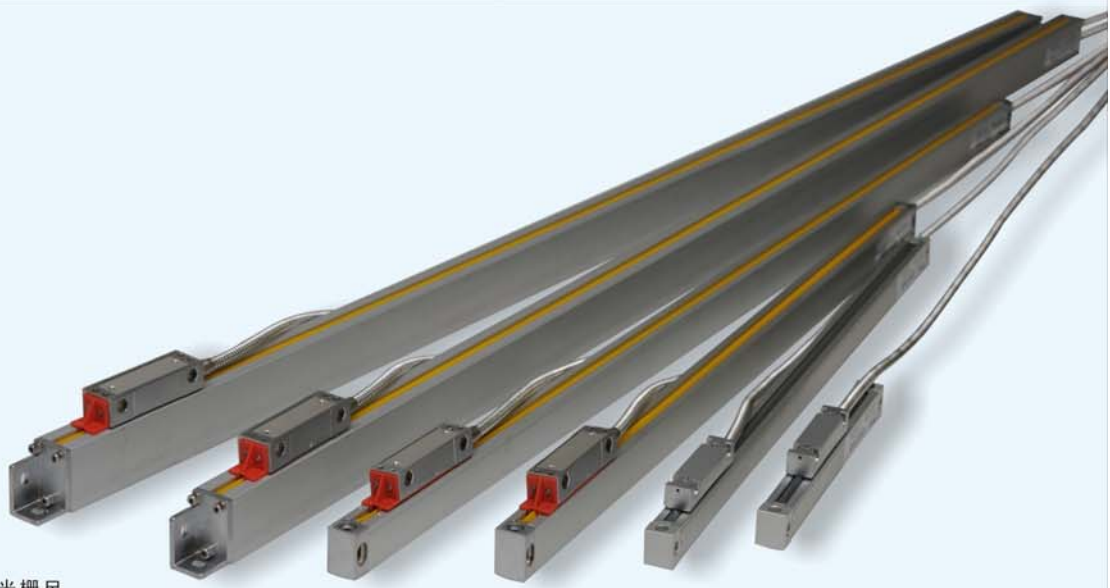
Basic functions

1. 200 auxiliary zero;
2. gamma calculator (for milling machine);
3. Power-down memory;
4. non-linear error compensation and linear error compensation;
5. Points in the function;
6. Inch / metric mode.

Processing functions

1. PCD circular sub-holes (for milling, EDM)
 2. Slash punch (for milling machine)
 3. Tool compensation function (for milling machine);
 4. Taper measurement function (for lathe);
 5. Slope processing (for milling machine);
 6. R arc function (for milling machine);
 7. 200 tool magazine (for lathe);
 8. EDM functions (for EDM, ordered separately)
- RS-232 communication (ordered separately)





光栅尺
Linear Scale

主要特性
 分辨率: 0.1/0.5/1/5/10 μ m
 测量精度: $\pm 3/\pm 5/\pm 10\mu$ m(20° C/68° F)
 光栅周期: 20 μ m光学玻璃尺
 光学测量系统: 透射式红外线光学测量系统, 红外线波长: 880nm

Key Features

Resolution:0.1/0.5/1/5/10 μ m
 Accuracy: $\pm 3/\pm 5/\pm 10\mu$ m(20° C/68° F)
 The grating period: 20 μ m optical linear scale.
 Grating system: The transmissive and infrared optical measuring system, the infrared wave length is 880nm.
 Reading head sliding system: vertical or 45° five precision bearing system

光栅尺信号接线图
Linear Scale Signal Wiring Diagram

光栅尺: 九针TTL信号输出图
 Linear Scale: Nine-pin TTL Signal Output Map

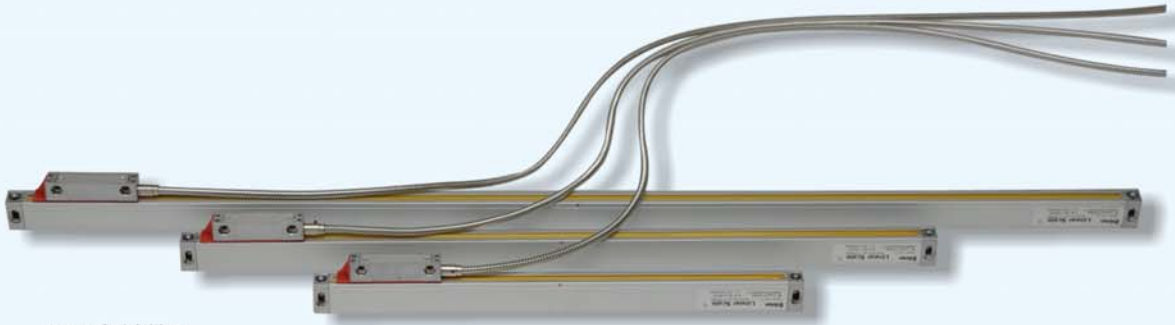
Pin	1	2	3	4	5	6	7	8	9
Signal	Empty	0V	Empty	Shield	empty	A	+5V	B	R
Color		Black		Shielding		Yellow	Red	Green	Brown

光栅尺: 九针EIA-422-A信号输出图
 Linear scale: Nine-pin EIA-422-A Signal Output Diagram

Pin	1	2	3	4	5	6	7	8	9
Signal	A-	0V	B-	Shield	R-	A	+5V	B	R
Color	Orange	Black	Blue	Shielding	White	Yellow	Red	Green	Brown

光栅尺: 七针TTL信号输出图
 Linear Scale: Seven-pin TTL Signal Output Map

Pin	1	2	3	4	5	6	7
Signal	0V	Empty	A	B	+5V	R	Shield
Color	Black		Yellow	Green	Red	Brown	Shielding



DC10系列光栅尺

规格\型号	DC10
有效量程 (mm)	50-1000
截面尺寸 (mm)	20.5×31
准确度	$\pm 3/\pm 5/\pm 10\mu\text{m}(20^\circ\text{C}/68^\circ\text{F})$
最大进给速度	60m/min
零位参考点	每50mm一个
密封保护	IP55
分辨率 (μm)	0.1/0.5/1/5/10
输出信号	TTL/EIA-422-A
电源电压	5V/12V/15V/24V/36V

DC10 series linear scale

Model	DC10
Measure length (mm)	50-1000
sectional Dimensions (mm)	20.5×31
Accuracy	$\pm 3/\pm 5/\pm 10\mu\text{m}(20^\circ\text{C}/68^\circ\text{F})$
Biggest maximum working speed	60m/min
Zero Reference Point	50mm/Piece
Sealing Protection	IP55
Resolution (μm)	0.1/0.5/1/5/10
Output signal	TTL/EIA-422-A
voltage	5V/12V/15V/24V/36V

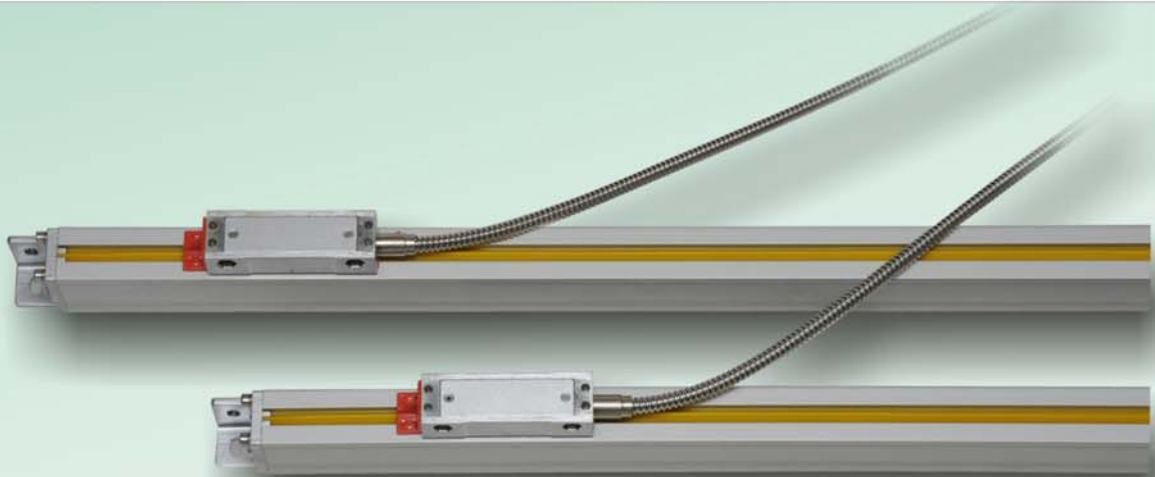
DC10F系列光栅尺

规格\型号	DC10F
有效量程 (mm)	50-500
截面尺寸 (mm)	18×23
准确度	±3/±5/±10μm(20° C/68° F)
最大进给速度	60m/min
零位参考点	每50mm一个
密封保护	IP55
分辨率 (μm)	0.5/1/5
输出信号	TTL
电源电压	5V

DC10F series linear scale

Model	DC10F
Measure length (mm)	50-500
sectional Dimensions (mm)	18×23
Accuracy	±3/±5/±10μm(20° C/68° F)
Biggest working speed	60m/min
Zero Reference Point	50mm/Piece
Sealing Protection	IP55
Resolution (μm)	0.5/1/5
Output signal	TTL
voltage	5V



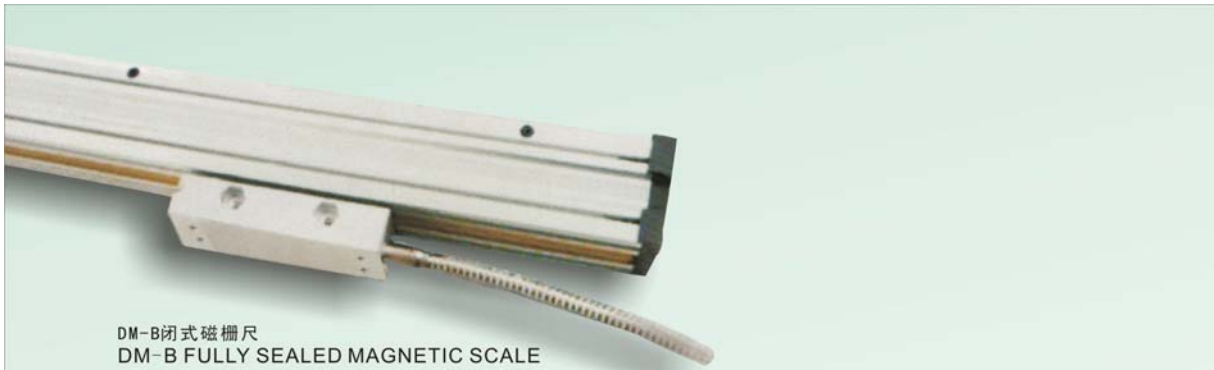


DC20系列光栅尺

规格\型号	DC20
有效量程 (mm)	1100-3000
截面尺寸 (mm)	27×44
准确度	±3/±5/±10μm(20° C/68° F)
最大进给速度	60m/min
零位参考点	每50mm一个
密封保护	IP55
分辨率 (μm)	0.5/1/5
输出信号	TTL/EIA-422-A
电源电压	5V/12V/15V/24V/36V

DC20 series linear scale

Model	DC20
Measure length (mm)	1100-3000
sectional Dimensions (mm)	27×44
Accuracy	±3/±5/±10μm(20° C/68° F)
Biggest working speed	60m/min
Zero Reference Point	50mm/Piece
Sealing Protection	IP55
Resolution (μm)	0.5/1/5
Output signal	TTL/EIA-422-A
voltage	5V/12V/15V/24V/36V



DM-B闭式磁栅尺
DM-B FULLY SEALED MAGNETIC SCALE

DM系列磁栅尺 DM MAGNETIC SCALE

DM系列磁栅尺的特点

Specification of dms series magnetic scale

1. 不会因冷却水、冷却液或金属粉尘等的影响而污染、抗污能力强。
1. Can't be polluted by the coolant water, coolant liquid or metal dust, so it has the strong capacity of anti-pollution.
2. 金属壳体刚性强 非易碎品 即使用喷气清洗机床时 直接喷射到磁栅尺也不会被损坏。
2. As the metal shell, so it can't be damaged easily. Even when doing the machine cleaning, the strong compressed air was sprayed on the magnetic scale, it also can't be damaged.
3. 磁栅尺读数头与磁条为非接触式, 从而避免因摩擦造成的产品损坏, 提高产品使用寿命。
3. As the non-connecting of magnetic read head and magnetic steal, so the scale is seldom damaged by the friction, then the life of the product can be longer.
4. 结构设计轻巧, 安装方便。采用密封设计距自带不干胶的磁条1.5mm, 磁带行程可达32M。
4. Simply designed structure, and easy for installation. It uses the high sealing design, and it has the 1.5mm self-adhesive magnetic steal, which the travel length can be 32M.
5. 磁栅具有数字或模拟输出信号 提供一系列用户可选的分辨率1. 2. 5. 10. 20及50 μ m。 在分辨率为1 μ m时最高速度可达4m/s。
5. The magnetic scale can output grid digital or analog signals, it can output a series of resolution with 1 μ m, 2 μ m, 5 μ m, 10 μ m, 20 μ m and 50 μ m, which can be selected by customers. When the resolution is 1 μ m, the highest traveling speed can be 4m/s.
6. DM 系列磁栅尺系统适合在及恶劣的应用环境中使用, 包括木工、石材切割、锯切、金属切削、纺织、包装塑料加工、自动化及装配系统, 激光/火焰/水切割、电子芯片、电路板生产等。
6. The DM series magnetic scale can be used in a very harsh environment, such as: stone cutting or processing machinery; metal working machinery; knitting machinery; packeging machinery; rubber production machinery; automation machinery; plasma cutting machinery; laser cutting machinery; water jet cutting machinery; semiconductor production machinery, and more.



DM-A开式磁栅尺
DM-A MAGNETIC SCALE

基本参数BASIC SPECIFICATION

磁栅尺分辨率: 0.025mm 0.01mm 5 μ m 0.5 μ m

Resolution: 0.025mm, 0.01mm, 5 μ m, 0.5 μ m

输出: LINE-DRIVER PUSH-PULL

Output: LINE-DRIVER; PUSH-PULL

线长: 1米 2米 3米

The length of signal line: 1meter; 2meter; 3meter

磁栅尺精度: $\pm 10\mu\text{m}/\text{m}$ $\pm 15\mu\text{m}/\text{m}$ $\pm 30\mu\text{m}/\text{m}$

The accuracy: $\pm 10\mu\text{m}/\text{m}$ $\pm 15\mu\text{m}/\text{m}$ $\pm 30\mu\text{m}/\text{m}$

磁带长度: Ma \times 32M

The length of magnetic steal: Ma \times 32M

磁间距: 1+1mm 2+2mm 5+5mm

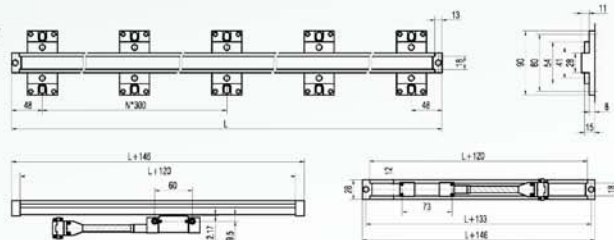
The magnetic gap: 1+1mm 2+2mm 5+5mm

工作温度: -10 $^{\circ}\text{C}$ 至+80 $^{\circ}\text{C}$

Working temperature: to-10 $^{\circ}\text{C}$ +80 $^{\circ}\text{C}$

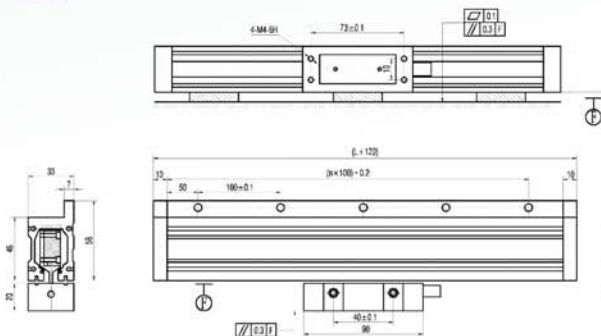
防水密封等级: IP67

The grade of waterproof and seal: Ip67



DM-A

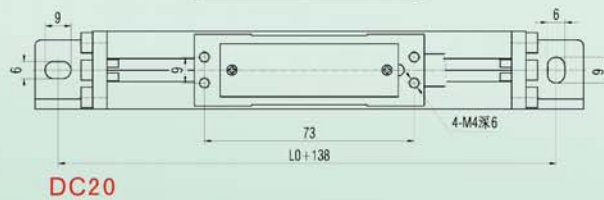
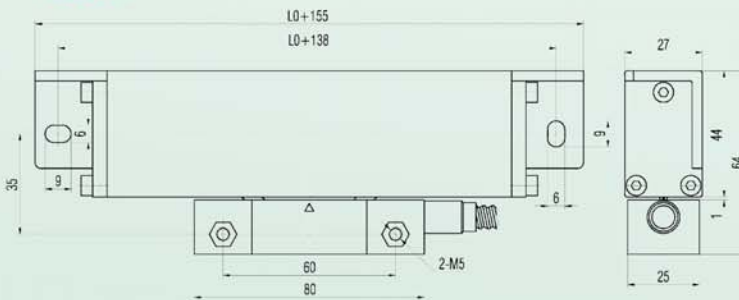
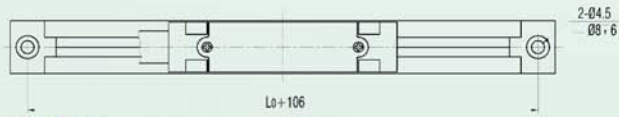
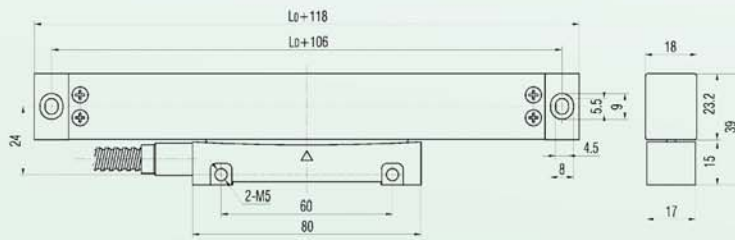
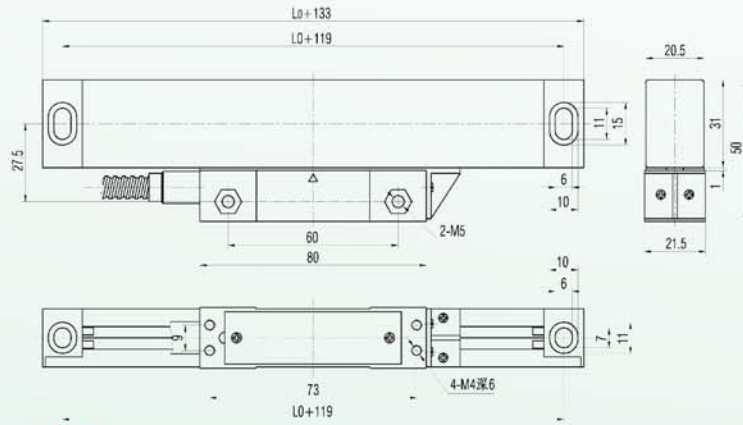
DM-B



磁栅尺安装尺寸图
Magnetic scale mechanical drawing for installation.

光栅尺安装尺寸图

Linear scale mechanical drawing for installation.



D30系列微位移传感器

D30型光栅测微传感器采用50线/mm或100线/mm的玻璃光栅，输出两路相位差90°的正弦波信号或正交方波信号，供电电压为+5V/+12V/+24V。本传感器的特点是测量范围大、精度高、使用方便，可配接光栅数显表光栅计数卡或光栅数据转换器使用。

技术指标：

测量范围：0-15mm、0-30mm、0-50mm

最大移动速度：300mm/S

测量力：<2.5N

工作温度：10° C-40° C

存储温度：0° C-55° C

标准配置电缆长度：2米

D30 series of micro-displacement sensor

D30 series grating micrometer sensor is made of 50 lines/mm or 100 lines/mm grating glass. It can output sine wave signal or quartered square wave signal, which be different of 90° phase. the power supply voltage can be: +5V/+12V/+24V. The feature of this sensor is: wide measurement range, high precision, easy to use, can be connected with raster count digital display adapter card or Raster data adapter.

Specifications:

Measure range: 0-15mm, 0-30mm, 0-50mm

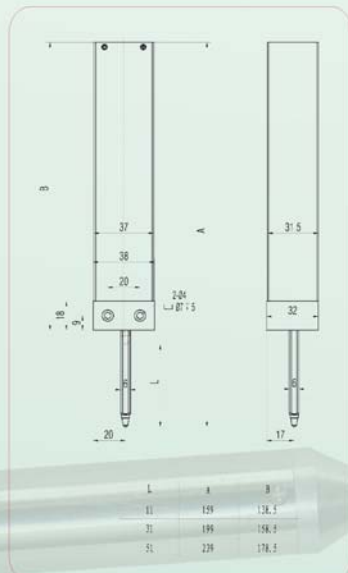
Maximum speed: 300mm/S

Measuring force: <2.5N

Operating Temperature: 10°C-4055°C

Storage Temperature: 0°C-55°C

Standard cable length: 2 m



D30 Micro-displacement sensor



D403/D405光栅测微仪

D403/D405型光栅测微仪是一种用于高精度测量的新型精密量具，它采用了当今先进的单片机、可编程逻辑电路和LED显示器，并结合先进的电子细分技术，具有结构合理、造型美观、精度高、功耗低、操作方便等特点。

主要功能：
六位LCD显示；
正反向可逆计数；
任意位置清零；
Rs232输出功能；
可配打印装置。

技术指标：
测量范围：0-30mm 0-50 mm
分辨率：0.001mm 0.0005mm 0.0001 mm
测量精度：0.002mm 0.0008mm 0.0004mm



D403/D405 grating micrometer

D403/D405 grating micrometer is a new precision measuring tool be used for high-precision measurement, it adapts the contemporary advanced microcontroller, programmable logic circuits and LED display, and combined with advanced electronic sub-technology, so it has features of a reasonable structure, a beautiful shape, high precision, low power consumption, convenient operation and so on.

Main features:

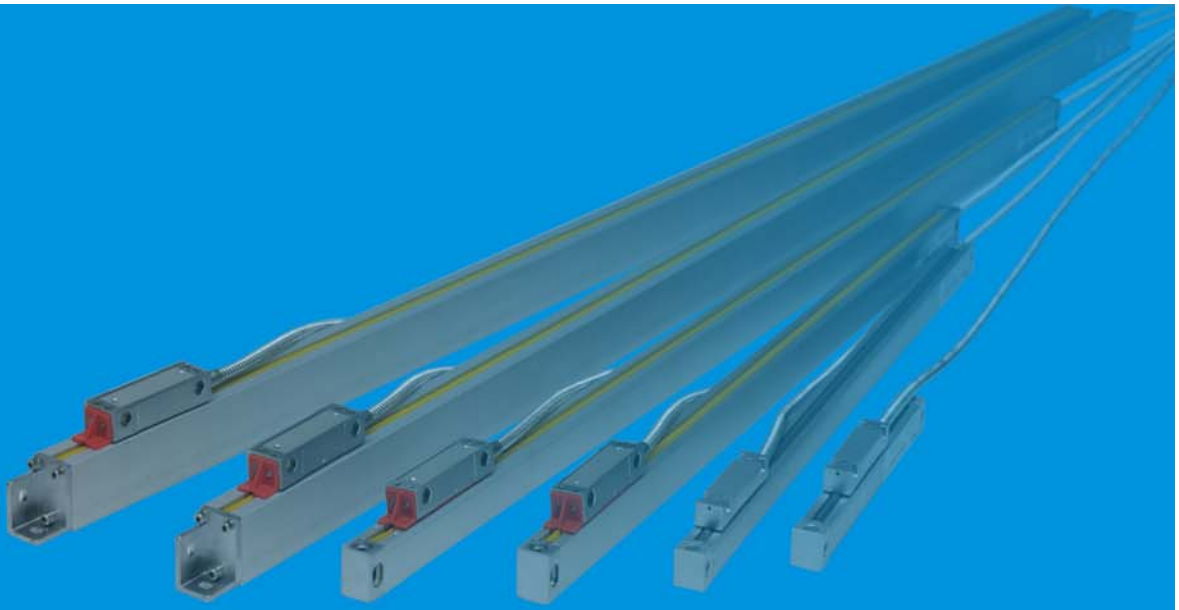
1. Six LCD display;
2. Positive and negative to the reversible counter;
3. Any positioning can be zero
4. RS232 output;
5. Can be equipped with printing devices.

Specifications:

1. Measuring range :0-30mm 0-50 mm
2. Resolution: 0.001mm 0.0005mm 0.0001 mm
3. Accuracy: 0.002mm 0.0008mm 0.0004mm







Ditron[®]



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