

Gemini™ MxG5xx 大气压至超高真空真空计

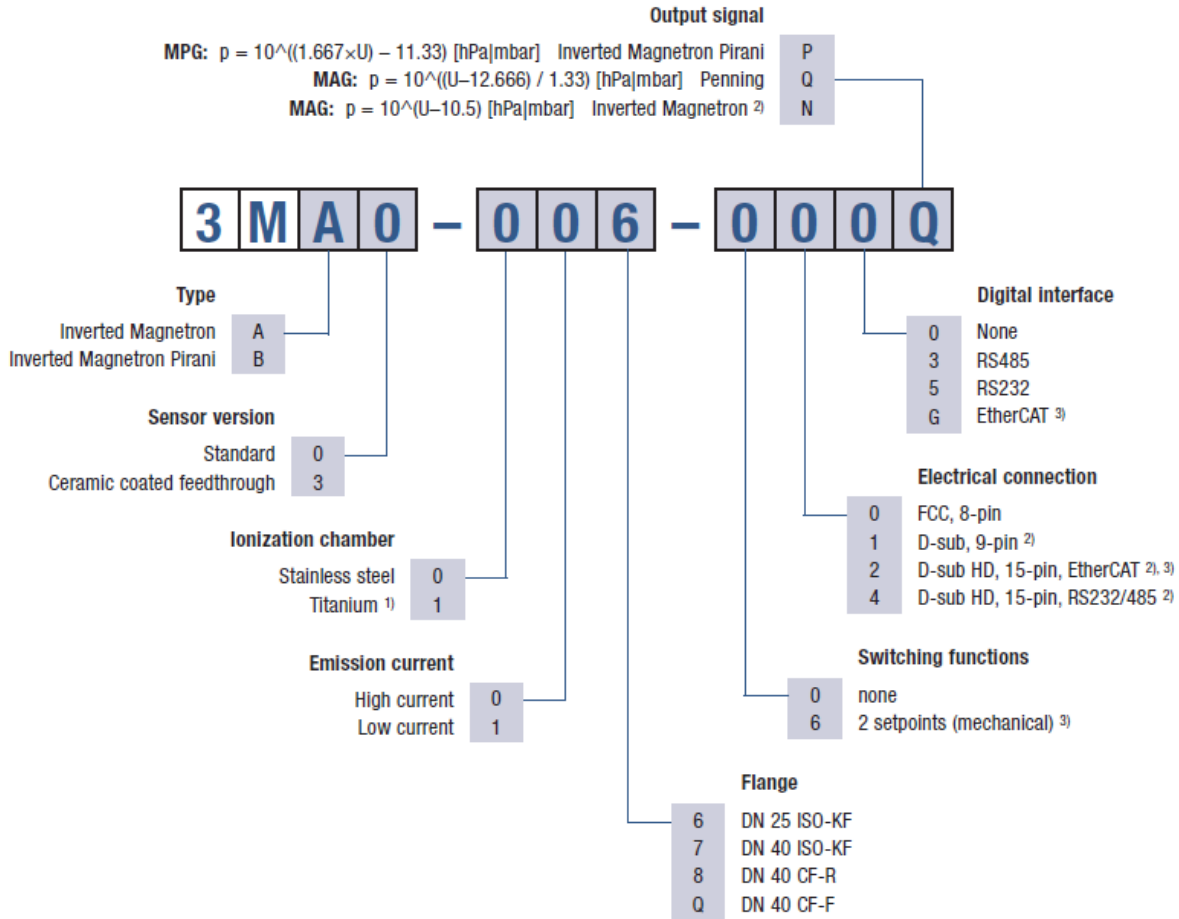
INFICON Gemini™ 倒置磁控管真空计是所有真空测量应用（专利申请中）的动力源泉。Gemini将两个传感器系统整合在一个小装置中，测量范围从大气压至 1×10^{-9} 毫巴。获得专利的超低杂散磁场设计为全新的应用领域开启了大门。独特的可互换式双室传感器单元不用清洗并减少了维护，这使使Gemini成为同类产品中最坚稳和经济的真空计。

Gemini冷阴极和组合真空计配备了完全集成的数字电子设备，使系统集成具有很强的灵活性。冷阴极和皮拉尼组合选项提供了跨越多个应用领域的无缝转换、可靠性、实用性和灵活性。



好处

- Long lifetime in harsh environments
- 在恶劣环境下，使用寿命长
- 低杂散磁场
- 零维护 - 可换插头
- 超紧凑尺寸
- 抗腐蚀馈入装置
- 可选测量电流
- 2 relay setpoints (MxG55x)
- EtherCAT and RS232/ RS485 digital interace



¹⁾ For low current version only.

²⁾ Not suited for operation with an INFICON vacuum gauge controller VGC40x or VGC50x.

³⁾ New sensor MxG55x in large housing and with switching functions.

规格

类型		MAG5xx	MPG5xx
测量系统		Cold cathode ionization measurement system (according to the inverted magnetron principle)	Pirani and cold cathode ionization measurement system (according to the inverted magnetron principle)
测量范围 (空气、N ₂)	mbar		1×10 ⁻⁹ ... 1000
测量范围 (空气、N ₂)	Torr		(7.6×10 ⁻¹⁰ ... 760)
测量范围 (空气、氮气)	mbar	1×10 ⁻⁹ ... 1×10 ⁻²	
测量范围 (空气、氮气)	Torr	(7.6×10 ⁻¹⁰ ... 7.6×10 ⁻³)	
准确度 (N ₂)			
1×10 ⁻⁸ ... 1×10 ⁻² 毫巴	% of reading	30	
1×10 ⁻² ... 100 毫巴	% of reading	-	
100 ... 1000 毫巴	% of reading	-	
准确性 (N ₂)			
1×10 ⁻⁸ ... 1×10 ⁻² 毫巴	% of reading		-
1×10 ⁻² ... 100 毫巴	% of reading		30
100 ... 1000 毫巴	% of reading		50
可重复性 (N ₂)			
1×10 ⁻⁸ ... 1×10 ⁻² 毫巴	% of reading	5	-
1×10 ⁻⁸ ... 100 毫巴	% of reading	-	5
安装定位		any	any
容许压力	bar (absolute)	10 (limited to inert gases <55°C)	10 (limited to inert gases <55°C)
容许温度			
运行 (环境)	°C	+5 ... +55	+5 ... +55
法兰烘烤 (1)	°C	≤150	≤150
储存	°C	-40 ... +70	-40 ... +70
灯丝温度	°C	-	120
一年 30 天的相对湿度			
1×10 ⁻⁷ ... 1×10 ⁻² 毫巴	%	≤95 (non-condensing)	≤95 (non-condensing)
1×10 ⁻⁸ ... 1×10 ⁻² 毫巴	%	≤70 (non-condensing)	≤70 (non-condensing)
供电电压			
在量规 (2)	V (dc)	+14.5 ... +30	
电源电压			

规格

类型		MAG5xx	MPG5xx
在量规 (2)	V (dc)		+14.5 ... +30
供电电压			
波纹	V (p-p)	≤1	
电源电压			
波纹	V (p-p)		≤1
供电电压			
功耗	W	≤2	
电源电压			
功耗	W		≤2
供电电压			
待连接的保险丝	AT	≤1	
电源电压			
待连接的保险丝	AT		≤1
电压范围			
模拟输出	V	0 ... +10.5	0 ... +10.5
错误信号			
输出阻抗	Ω		2x10
错误信号			
负载阻抗	kΩ		≥10 (short circuit-proof)
量规标识	kΩ		85
测量范围			
3MAx-00x-0x0N	V		-
3MBx-00x-0x0P	V		+1.398 ... +8.598
3MAx-00x-0x0Q	V		-
3MAx-xxx-xxxN	V	+1.5 ... +8.5	
3MBx-xxx-xxxP	V	-	
3MAx-xxx-xxxQ	V	+0.667 ... +10	
状态 (针 6)			
仅皮拉尼模式	V		0 (low)
冷阴极点火	V		-
组合皮拉尼/冷阴极模式 3)	V		+15 ... +30 (high)

规格

类型		MAG5xx	MPG5xx
工作电压	kV		≤3.3
工作电流高	μA		≤500
电压比压力			
3MAx-00x-0x0N	volts per decade		-
3MBx-00x-0x0P	volts per decade		0.6 (logarithmic)
3MAx-00x-0x0Q	volts per decade		-
3MAx-xxx-xxxN	volts per decade	1 (logarithmic)	
3MBx-xxx-xxxP	volts per decade	-	
3MAx-xxx-xxxQ	volts per decade	1.33 (logarithmic)	
工作电流低	μA		≤100
重量			
DN 25 ISO-KF	g		<280
DN 40 ISO-KF	g		<320
DN 40 CF-F & CF-R	g		<570
错误信号			
错误信号	V		09.5 ... +10.5
3MAx-xxx-xxxN	V	<+0.5	
3MA-xxx-xxxQ	V	≤+0.3	
3MBx-xxx-xxxP	V	-	
Output impedance	Ω	2 x 4.7 (short circuit-proof)	
标准			
符合CE标准			EMC (EN 61000-6-2, EN 61000-6-3), EN 61010-1 & RoHS
Load impedance	kΩ	≥10 (short circuit-proof)	
维护			none
阶跃响应时间			
p > 10 ⁻⁶ 毫巴	ms	<100	<100
阶跃响应时间			

规格

类型		MAG5xx	MPG5xx
p = 10-8 毫巴	s	~1	~1
量规标识 (FCC connector gauges)			
3MAx-0xx-000N	kΩ	-	
3MAx-0xx-000Q	kΩ	100	
3MBx-0xx-000P	kΩ	-	
状态 (针 6)			
Current rating	mA	100	
状态 (针 6)			
High Voltage is ON	V (dc)	+14.5 ... +30 (depending on supply voltage)	
High Voltage is OFF	V (dc)	0	
Status signal, digital output (D-sub connector)			
Supply voltage	V (dc)	≤30	
High voltage ON	V (dc)	0	
Status signal, digital output (D-sub connector)			
Current rating	mA	100 (sink)	
Status signal, digital output (D-sub connector)			
High voltage OFF		open	
电气连接			
3Mxx-00x-000x			FCC68, 8-pin, female
3Mxx-00x-010x			D-sub, 9-pin, male
3Mxx-0xx-000x		FCC68, 8-pin, female	
3Mxx-0xx-010x		D-sub, 9-pin, male	
3Mxx-0xx-04xx		D-Sub HD, 15-pin, male (for RS232/485 version)	
3Mxx-xxx-x2Gx		D-Sub HD, 15-pin, male (for EtherCAT Version)	
传感器电缆			
3Mxx-00x-000x			8-pin, shielded

规格

类型		MAG5xx	MPG5xx
3Mxx-0xx-000x		8-pin, shielded	
3Mxx-0xx-010x		9-pin, shielded	
3Mxx-0xx-04xx		15-pin, shielded (for RS232/485 version)	
3Mxx-xxx-x2Gx		15-pin, shielded (for EtherCAT version)	
电缆长度			
50 米电缆	m		≤ 50 (8x0.14 mm ²)
75 米电缆	m		≤ 75 (8x0.25 mm ²)
100 米电缆	m		≤ 100 (8x0.34 mm ²)
300 米电缆	m		≤ 300 (8x1.00 mm ²)
FCC connector cable	m	≤50 (0.14 mm ² / conductor)	
High voltage (in the measuring chamber)			
Ignition voltage	kV	≤4.5	
工作电压	kV	≤3.3	
Current (in the measuring chamber)			
High current	μA	≤380	
Low current	μA	≤130	
Setpoint relays (MxG55x)			
Range (N2)	mbar bar	5x10 ⁻⁵ ... 1500	
Setpoint relays (MxG55x)			
Relay contact		normally open (NO), potential free	
Setpoint relays (MxG55x)			
Hysteresis	% of threshold	10	
Setpoint relays (MxG55x)			
Contact rating of mechanical relays	V/A	≤30/ ≤1	
Setpoint relays (MxG55x)			
Switching time	ms	≤30	
曝露在真空的材料			

规格

类型		MAG5xx	MPG5xx
3Mx0-00x-0x0x			W, Ni alloy, Al ₂ O ₃ , glass, stainless steels
3Mx3-00x-0x0x			Ni alloy, Al ₂ O ₃ , stainless steels
3Mx0-xxx-xxxx		Ni alloy, Mo, Al ₂ O ₃ , glass, stainless steels	
3Mx3-xxx-xxxx		Mo, Al ₂ O ₃ , stainless steels	
3Mx0-11x-xxxx		Ni alloy, Mo, Al ₂ O ₃ , glass, Ti, stainless steels	
3Mx3-11x-xxxx		Mo, Al ₂ O ₃ , Ti, stainless steels	
内部容量			22.8
DN 25 ISO-KF	cm ³	~19.9	
DN 40 ISO-KF	cm ³	~20.9	
DN 40 CF-F	cm ³	~25.2	
DN 40 CF-R	cm ³	~25.6	
	cm ³	22.8	22.8
重量 (MxG50x)			
DN 25 ISO-KF	g	<280	
DN 40 ISO-KF	g	<320	
DN 40 CF-F & CF-R	g	<570	
Weight (MxG55x)			
DN 25 ISO-KF	g	≤500	
DN 40 ISO-KF	g	≤320	
DN 40 CF-F & CF-R	g	≤780	
防护等级		IP 40	IP 40
CE conformity			
EMC		2014/30/EU, EN 61000-6-2, EN 61000-6-3, EN 61326-1	
RoHS		2011/65/EU	
Safety		EN 61010-1	
RS232C / 485C (MxG50x)			
Baud rates	kBaud	9.6/ 19.2/ 38.4/ 57.6	
RS232C / 485C (MxG50x)			
Address		2 switches (address 00 - 255)	

规格

类型	MAG5xx	MPG5xx
Digital functions	Read pressure, select Units: Torr, mbar, Pa, micron, counts. Monitor gauge Status, detailed Alarm and warning Information, safe state allows Definition of behaviour in case of error.	
Connector for RS232 & RS485	D-Sub HD, 15-pin, male	
EtherCAT® (MxG55x) Protocol	EtherCAT ??????	
Communication standard	ETG.5003.1 S (R) V1.1.0 ⁴⁾ ETG.5003.2080 S (R) V1.3.0 ₅₎	
Node address	Explicit Device Identification	
Physical layer	100Base-Tx (IEEE 802.3)	
Digital functions	Read pressure, select Units: Torr, mbar, Pa, micron, Counts. Monitor gauge Status, detailed Alarm and warning Information, safe state allows Definition of behaviour in case of error.	
EtherCAT connector	2 x RJ45, 8-pin (socket), Input & output	
EtherCAT cable	Special Ethernet Patch cable or crossover cable, shielded (CAT5e Quality or higher)	
EtherCAT® (MxG55x) Cable length	m (ft.)	≤100 (330)

- 1) 没有电子元件。
- 2) 电源单元的最小电压必须与传感器电缆的长度成比例地增加。
- 3) 冷阴极点燃。

备件

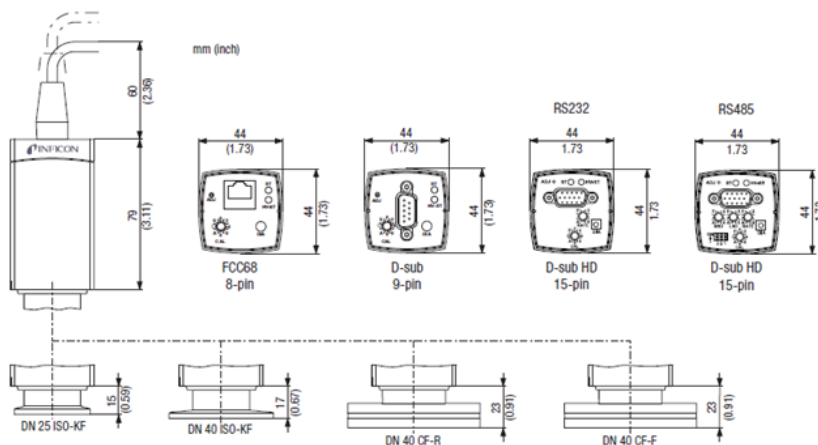
	MAG5xx	MPG5xx
MAG500 spare sensor, 25KF, SS	351-500	-
MAG500 spare sensor, 25KF, TI	351-502	-
MAG500 spare sensor, 40CF-F, SS	351-524	-
MAG500 spare sensor, 40CF-F, TI	351-526	-
MAG500 spare sensor, 40CF-R, SS	351-536	-
MAG500 spare sensor, 40CF-R, TI	351-538	-
MAG500 spare sensor, 40KF, SS	351-512	-
MAG500 spare sensor, 40KF, TI	351-514	-
MAG504 Ersatzsensor, 25KF, TI	351-503	-
MAG504 spare sensor, 25KF, SS	351-501	-
MAG504 spare sensor, 40CF-F, SS	351-525	-
MAG504 spare sensor, 40CF-F, TI	351-527	-
MAG504 spare sensor, 40CF-R, SS	351-537	-
MAG504 spare sensor, 40CF-R, TI	351-539	-
MAG504 spare sensor, 40KF, SS	351-513	-
MAG504 spare sensor, 40KF, TI	351-515	-
MPG500 spare sensor, 25KF, SS	-	351-506
MPG500 spare sensor, 25KF, TI	-	351-508
MPG500 spare sensor, 40CF-F, SS	-	351-530
MPG500 spare sensor, 40CF-F, TI	-	351-532
MPG500 spare sensor, 40CF-R, SS	-	351-542
MPG500 spare sensor, 40CF-R, TI	-	351-544
MPG500 spare sensor, 40KF, SS	-	351-518
MPG500 spare sensor, 40KF, TI	-	351-520
MPG504 spare sensor, 25KF, SS	-	351-507
MPG504 spare sensor, 25KF, TI	-	351-509
MPG504 spare sensor, 40CF-F, SS	-	351-531
MPG504 spare sensor, 40CF-F, TI	-	351-533
MPG504 spare sensor, 40CF-R, SS	-	351-543
MPG504 spare sensor, 40CF-R, TI	-	351-545
MPG504 spare sensor, 40KF, SS	-	351-519
MPG504 spare sensor, 40KF, TI	-	351-521
Spare ion chamber ss	351-555	351-555
Spare ion chamber ti	351-556	351-556
起辉器	351-995	351-995

附件

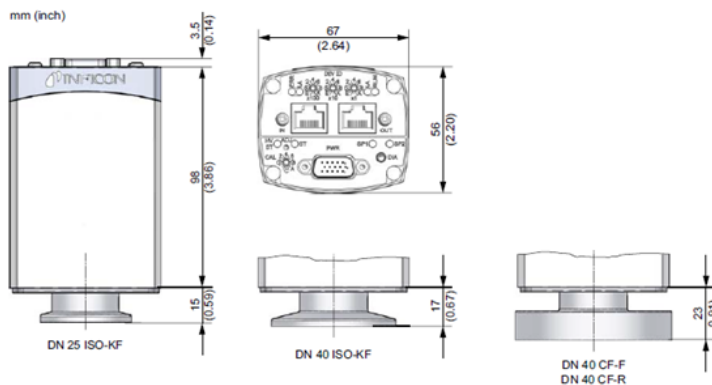
	MAG5xx	MPG5xx
Baffle for BPG400	353-512	353-512
MxG50x 点火单元	351-550	351-550
中心圈 with baffle DN 25 KF	211-113	211-113
细目过滤中心环组件DN 25 ISO-KF	211-098	211-098

尺寸

MxG500, MxG504



MxG550, MxG554



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⇒ Accuracy
MPG at 1x10-
2 ... 10mbar
from 15 to
30%