SKY® CDG045D 0.05 ... 1000Torr / mbar

INFICON SKY CDG045D manometers are your best choice for high accurate total pressure measurement and control. CDG045D gauges are temperature controlled at 45 °C for superior signal stability and repeatability. They are available for full scale ranges from 50 mTorr to 1000 Torr, with all common flange types and fieldbus interfaces and provide a linear 0 to 10 V, gas type independent, pressure signal. INFICON capacitance manometers use an ultra pure alumina ceramic diaphragm which is corrosion proof. The advantages of the ceramic sensor are better signal stability, faster recovery from atmosphere, short warm up time and an extraordinary lifetime. INFICON CDG are high quality, cost effective pressure sensors for demanding vacuum applications.

BENEFITS

- Lower CoO (cost of ownership), 50% faster warm up, energy efficient low power consumption
- Easy integration, wide variety of full scales, flanges and interfaces, standard with two set points
- Easy one push button or remote signal zero command, zero offset adjustable
- Diagnostic port for quick service and maintenance
- Two year warranty, longer life time with advanced heating concept and gauge protection
- No long term recalibration due to excellent signal stability and repeatability, even in harsh plasma applications
- Compliance & standards: CE, EN, UL, SEMI, RoHS

ORDERING INFORMATION

3 C C 1 – 6 5 1 – 2 3 0 0

Full Scale (F.S.)

0.05	2
0.1	**3**
0.25	4
0.5	5
1	**6**
2	7
5	8
10	**9**
20	A
50	B
100	**C**
200	D
500	E
(Torr only) **1000**	**F**
(mbar only) 1100	G

Unit

5	**Torr** (x 1.33 mbar; x 133 Pa)
6	mbar (x 100 Pa)

Flange

1	DN 16 ISO-KF
3	DN 16 CF-R
9	OD 1/2" tube
E	8 VCR female

Fieldbus interface

0	None
1	DeviceNet
2	Profibus
8	EtherCAT

0	Standard
B	P control [1]

[1] Optimised siganl filter setting for pressure control

bold = standard products

Other flange types and full scale ranges (F.S.) on request.

SPECIFICATIONS

Type		1000 Torr, 1100 mbar	500 ... 1 Torr / mbar	0.5 ... 0.05Torr / mbar
Accuracy (1)	% of reading	0.15	0.15	0.15
Temperature effect				
on zero	percent FS/°C	0.0025	0.0025	0.005
Temperature effect				
on span	% of reading / °C	0.01	0.01	0.01
Pressure, max.	kPa (absolute)	400	260	130
Resolution	percent FS	0.003	0.003	0.003
Lowest reading	percent FS	0.01	0.01	0.01
Lowest suggested reading	percent FS	0.05	0.05	0.05
Lowest suggested control pressure	percent FS	0.5	0.5	0.5
Temperature				
Operation (ambient)	°C	+10 … +40	+10 … +40	+10 … +40
Bakeout at flange	°C	≤110	≤110	≤110
Storage	°C	–20 … +65	–20 … +65	–20 … +65
Supply voltage		+14 … +30 VDC or ±15 V (±5%)	+14 … +30 VDC or ±15 V (±5%)	+14 … +30 VDC or ±15 V (±5%)
Power consumption				
During Heat up	W	≤12	≤12	≤12
At operating temperature	W	≤8	≤8	≤8
Output signal (analog)	V (dc)	0 … +10	0 … +10	0 … +10
Response time (2)	ms	30	30	130 / 30 (3)
Degree of protection		IP 40	IP 40	IP 40
Standards				
CE conformity		EN 61000-6-2/-6-3, EN 61010 & RoHS	EN 61000-6-2/-6-3, EN 61010 & RoHS	EN 61000-6-2/-6-3, EN 61010 & RoHS
ETL certification		UL 61010-1, CSA 22.2 No.61010-1	UL 61010-1, CSA 22.2 No.61010-1	UL 61010-1, CSA 22.2 No.61010-1
SEMI compliance		SEMI S2	SEMI S2	SEMI S2
Electrical connection		D-sub, 15 pole, male	D-sub, 15 pole, male	D-sub, 15 pole, male
Setpoint				
Number of setpoints		2 (SP1,SP2)	2 (SP1,SP2)	2 (SP1,SP2)
Setpoint				
Relay contact	V (dc)	≤30	≤30	≤30
Setpoint				

SPECIFICATIONS

Type		1000 Torr, 1100 mbar	500 ... 1 Torr / mbar	0.5 ... 0.05Torr / mbar
Relay contact	A (dc)	≤0.5	≤0.5	≤0.5
Setpoint				
Hysteresis	percent FS	1	1	1
Diagnostic port				
Protocol		RS232-C	RS232-C	RS232-C
Read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Materials exposed to vacuum		Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [4])	Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [4])	Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [4])
Internal volume				
I. volume 1/2" tube	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
I. volume DN 16 ISO KF	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
I. volume DN 16 CF-R	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
I. volume 8 VCR®	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
Weight				
Weight 1/2" tube	g	837	837	837
Weight DN 16 ISO KF	g	852	852	852
Weight DN 16 CF-R	g	875	875	875
Weight 8 VCR®	g	897	897	897

EtherCAT			
Protocol EtherCAT	protocol specialized for EtherCAT	protocol specialized for EtherCAT	protocol specialized for EtherCAT
Communication standards	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"
Node address	Explicit Device Identification	Explicit Device Identification	Explicit Device Identification
Physical layer	100BASE-Tx (IEEE 802.3)	100BASE-Tx (IEEE 802.3)	100BASE-Tx (IEEE 802.3)

SPECIFICATIONS

Type		1000 Torr, 1100 mbar	500 ... 1 Torr / mbar	0.5 ... 0.05Torr / mbar
Digital functions read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Digital functions set		set points, filter, zero adjust, reset, DC offset	set points, filter, zero adjust, reset, DC offset	set points, filter, zero adjust, reset, DC offset
Mailbox (CoE)		SDO requests, responses and information	SDO requests, responses and information	SDO requests, responses and information
Process data		Fixed PDO mapping and configurable PDO mapping	Fixed PDO mapping and configurable PDO mapping	Fixed PDO mapping and configurable PDO mapping
EtherCAT connector		RJ45, 8-pin (socket), IN and OUT	RJ45, 8-pin (socket), IN and OUT	RJ45, 8-pin (socket), IN and OUT
Cable		shielded Ethernet CAT5e or higher	shielded Ethernet CAT5e or higher	shielded Ethernet CAT5e or higher
EtherCAT				
Cable length	m (ft.)	≤100 (330)	≤100 (330)	≤100 (330)
DeviceNet™				
Protocol		DeviceNet™, group 2 slave only	DeviceNet™, group 2 slave only	DeviceNet™, group 2 slave only
MAC ID		address 00 - 63 by switch or network programmable	address 00 - 63 by switch or network programmable	address 00 - 63 by switch or network programmable
Digital functions read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Digital functions set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Specification		DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)	DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)	DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)
Device type		"VG" vacuum gauge	"VG" vacuum gauge	"VG" vacuum gauge
I / O slave messaging		polling only	polling only	polling only
Supply voltage for gauge at D-sub connector		+14 … +30 VDC or ±15 V / ≤12 W	+14 … +30 VDC or ±15 V / ≤12 W	+14 … +30 VDC or ±15 V / ≤12 W
Supply voltage for DeviceNet transceiver at microstyle connector		24 V nom / <2 W (11 … 25 V)	24 V nom / <2 W (11 … 25 V)	24 V nom / <2 W (11 … 25 V)
Connector for DeviceNet™		microstyle, 5 pin, male	microstyle, 5 pin, male	microstyle, 5 pin, male
Connector for CDG (analog output, supply voltage CDG, setpoints)		D-sub, 15 pin, male	D-sub, 15 pin, male	D-sub, 15 pin, male
DeviceNet™				

SPECIFICATIONS

Type		1000 Torr, 1100 mbar	500 ... 1 Torr / mbar	0.5 ... 0.05Torr / mbar
Data rate	kBaud	125, 250, 500 by switch or network programmable	125, 250, 500 by switch or network programmable	125, 250, 500 by switch or network programmable
DeviceNet™				
Cable length 125 kbps	m (ft.)	500 (1650)	500 (1650)	500 (1650)
Cable length 250 kbps	m (ft.)	250 (825)	250 (825)	250 (825)
Cable length 500 kbps	m (ft.)	100 (330)	100 (330)	100 (330)
Profibus DP				
Baud rates	kBaud	9.6 / 19.2 / 93.75 / 187.5 / 500	9.6 / 19.2 / 93.75 / 187.5 / 500	9.6 / 19.2 / 93.75 / 187.5 / 500
Profibus DP				
Baud rates	Mbaud	1.5 / 12	1.5 / 12	1.5 / 12
Profibus DP				
Address		address 00 - 125 by switch or network programmable	address 00 - 125 by switch or network programmable	address 00 - 125 by switch or network programmable
Digital functions Read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Digital functions Set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Connector for Profibus DP		D-sub, 9 pin, female	D-sub, 9 pin, female	D-sub, 9 pin, female
Connector for CDG (analog output, supply voltage, setpoints)		D-sub, 15 pin, male	D-sub, 15 pin, male	D-sub, 15 pin, male

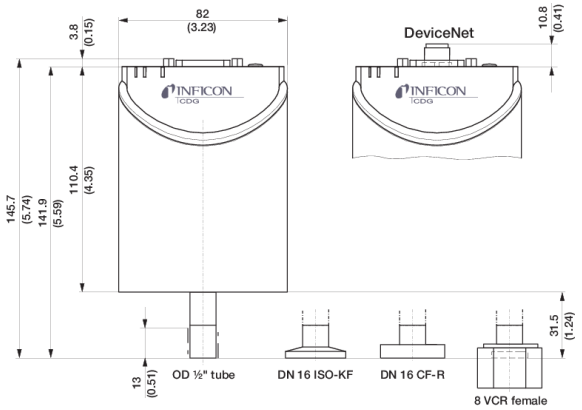
(1) Non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

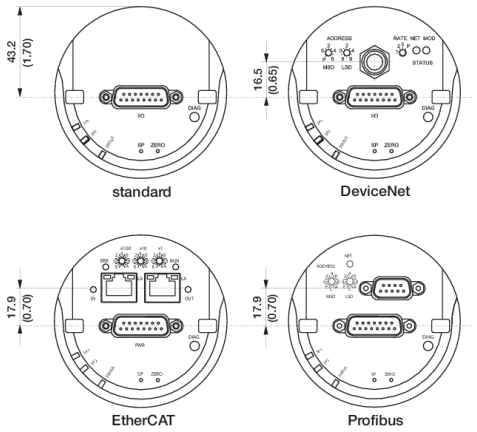
(2) Increase 10 … 90 percent FS

(3) For pressure control type only

(4) 18% Cr, 10% Ni, 3% Mo, 69% Fe

DIMENSIONS





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SKY® CDG100D 0.1 ... 1000 Torr / mbar

INFICON SKY CDG100D manometers are your best choice for accurate total pressure measurement and control. CDG100D gauges are temperature controlled at 100 °C for superior performance in demanding semiconductor and plasma processes. They are available for full scale ranges from 100 mTorr to 1000 Torr, with all common flange types and fieldbus interfaces and provide a linear 0 to 10 V, gas type independent, pressure signal. INFICON capacitance manometers use an ultra pure alumina ceramic diaphragm which is corrosion proof. The advantages of the ceramic sensor are better signal stability, faster recovery from atmosphere, short warm up time and an extraordinary lifetime. INFICON CDG are high quality, cost effective pressure sensors for demanding semiconductor, plasma and vacuum applications.

BENEFITS

- Lower CoO (cost of ownership), 50% faster warm up, energy efficient low power consumption
- Easy integration, wide variety of full scales, flanges and interfaces, standard with two set points
- Easy one push button or remote signal zero command, zero offset adjustable
- Diagnostic port for quick service and maintenance
- Two year warranty, longer life time with advanced heating concept and gauge protection
- No long term recalibration due to excellent signal stability and repeatability, even in harsh plasma applications
- Compliance & standards: CE, EN, UL, SEMI, RoHS

ORDER INFORMATION

3 C D 1 – 6 5 1 – 2 3 0 0

Full Scale (F.S.)

	0.1	**3**
	0.25	4
	0.5	5
	1	**6**
	2	7
	5	8
	10	**9**
	20	A
	50	B
	100	**C**
	200	D
	500	E
(Torr only)	**1000**	**F**
(mbar only)	1100	G

Unit

(× 1.33 mbar; × 133 Pa)	**Torr**	**5**
(× 100 Pa)	mbar	6

Flange

1	DN 16 ISO-KF
3	DN 16 CF-R
9	OD 1/2" tube
E	8 VCR female

Connector

23	15-pin D-Sub, 2 SP
01	9-pin D-Sub

Fieldbus interface

0	None
1	DeviceNet
2	Profibus
8	EtherCAT

0	Standard
B	P control [1]

[1] Optimised signal filter setting for pressure control.

bold = standard products

Other flange types and full scale ranges (F.S.) on request.

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar	0.5 ... 0.1 Torr / mbar
Accuracy (1)	% of reading	0.2	0.2	0.4
Temperature effect				
on zero	percent FS/°C	0.0025	0.0025	0.005
Temperature effect				
on span	% of reading / °C	0.02	0.02	0.02
Pressure, max.	kPa (absolute)	400	260	130
Resolution	percent FS	0.003	0.003	0.003
Lowest reading	percent FS	0.01	0.01	0.01
Lowest suggested reading	percent FS	0.05	0.05	0.05
Lowest suggested control pressure	percent FS	0.5	0.5	0.5
Temperature				
Operation (ambient)	°C		+10 … +50	+10 … +50
Operation (ambient) (5)	°C	+10 … +50		
Bakeout at flange	°C	≤110	≤110	≤110
Storage	°C	–20 … +65	–40 … +65	–40 … +65
Supply voltage		+14 … +30 VDC or ±15 V (±5%)	+14 … +30 VDC or ±15 V (±5%)	+14 … +30 VDC or ±15 V (±5%)
Power consumption				
During Heat up	W	≤15	≤15	≤15
At operating temperature	W	≤10	≤10	≤10
Output signal (analog)	V (dc)	0 … +10	0 … +10	0 … +10
Response time (2)	ms	30	30	130 / 30 (3)
Degree of protection		IP 40	IP 40	IP 40
Standards				
CE conformity		EN 61000-6-2/-6-3, EN 61010 & RoHS	EN 61000-6-2/-6-3, EN 61010 & RoHS	EN 61000-6-2/-6-3, EN 61010 & RoHS
ETL certification		UL 61010-1, CSA 22.2 No.61010-1	UL 61010-1, CSA 22.2 No.61010-1	UL 61010-1, CSA 22.2 No.61010-1
SEMI compliance (5)		SEMI S2		
SEMI compliance			SEMI S2	SEMI S2
Electrical connection		D-sub, 15 pole, male	D-sub, 15 pole, male	D-sub, 15 pole, male
Setpoint				
Number of setpoints		2 (SP1,SP2)	2 (SP1,SP2)	2 (SP1,SP2)

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar	0.5 ... 0.1 Torr / mbar
Setpoint				
Relay contact	V (dc)	≤30	≤30	≤30
Setpoint				
Relay contact	A (dc)	≤0.5	≤0.5	≤0.5
Setpoint				
Hysteresis	percent FS	1	1	1
Diagnostic port				
Protocol		RS232-C	RS232-C	RS232-C
Read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Materials exposed to vacuum		Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [4])	Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [4])	Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [4])
Internal volume				
I. volume 1/2" tube	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
I. volume DN 16 ISO KF	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
I. volume DN 16 CF-R	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
I. volume 8 VCR®	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)	4.2 (0.26)
Weight				
Weight 1/2" tube	g	837	837	837
Weight DN 16 ISO KF	g	852	852	852
Weight DN 16 CF-R	g	875	875	875
Weight 8 VCR®	g	897	897	897

EtherCAT			
Protocol EtherCAT	protocol specialized for EtherCAT	protocol specialized for EtherCAT	protocol specialized for EtherCAT
Communication standards	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar	0.5 ... 0.1 Torr / mbar
Node address		Explicit Device Identification	Explicit Device Identification	Explicit Device Identification
Physical layer		100BASE-Tx (IEEE 802.3)	100BASE-Tx (IEEE 802.3)	100BASE-Tx (IEEE 802.3)
Digital functions read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Digital functions set		set points, filter, zero adjust, reset, DC offset	set points, filter, zero adjust, reset, DC offset	set points, filter, zero adjust, reset, DC offset
Mailbox (CoE)		SDO requests, responses and information	SDO requests, responses and information	SDO requests, responses and information
Process data		Fixed PDO mapping and configurable PDO mapping	Fixed PDO mapping and configurable PDO mapping	Fixed PDO mapping and configurable PDO mapping
EtherCAT connector		RJ45, 8-pin (socket), IN and OUT	RJ45, 8-pin (socket), IN and OUT	RJ45, 8-pin (socket), IN and OUT
Cable		shielded Ethernet CAT5e or higher	shielded Ethernet CAT5e or higher	shielded Ethernet CAT5e or higher
EtherCAT				
Cable length	m (ft.)	≤100 (330)	≤100 (330)	≤100 (330)
DeviceNet™				
Protocol		DeviceNet™, group 2 slave only	DeviceNet™, group 2 slave only	DeviceNet™, group 2 slave only
MAC ID		address 00 - 63 by switch or network programmable	address 00 - 63 by switch or network programmable	address 00 - 63 by switch or network programmable
Digital functions read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Digital functions set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Specification		DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)	DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)	DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)
Device type		"VG" vacuum gauge	"VG" vacuum gauge	"VG" vacuum gauge
I / O slave messaging		polling only	polling only	polling only
Supply voltage for gauge at D-sub connector		+14 … +30 VDC or ±15 V / ≤12 W	+14 … +30 VDC or ±15 V / ≤12 W	+14 … +30 VDC or ±15 V / ≤12 W
Supply voltage for DeviceNet transceiver at microstyle connector		24 V nom / <2 W (11 … 25 V)	24 V nom / <2 W (11 … 25 V)	24 V nom / <2 W (11 … 25 V)

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar	0.5 ... 0.1 Torr / mbar
Connector for DeviceNet™		microstyle, 5 pin, male	microstyle, 5 pin, male	microstyle, 5 pin, male
Connector for CDG (analog output, supply voltage CDG, setpoints)		D-sub, 15 pin, male	D-sub, 15 pin, male	D-sub, 15 pin, male
DeviceNet™				
Data rate	kBaud	125, 250, 500 by switch or network programmable	125, 250, 500 by switch or network programmable	125, 250, 500 by switch or network programmable
DeviceNet™				
Cable length 125 kbps	m (ft.)	500 (1650)	500 (1650)	500 (1650)
Cable length 250 kbps	m (ft.)	250 (825)	250 (825)	250 (825)
Cable length 500 kbps	m (ft.)	100 (330)	100 (330)	100 (330)
Profibus DP				
Baud rates	kBaud	9.6 / 19.2 / 93.75 / 187.5 / 500	9.6 / 19.2 / 93.75 / 187.5 / 500	9.6 / 19.2 / 93.75 / 187.5 / 500
Profibus DP				
Baud rates	Mbaud	1.5 / 12	1.5 / 12	1.5 / 12
Profibus DP				
Address		address 00 - 125 by switch or network programmable	address 00 - 125 by switch or network programmable	address 00 - 125 by switch or network programmable
Digital functions Read		pressure, status, ID	pressure, status, ID	pressure, status, ID
Digital functions Set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Connector for Profibus DP		D-sub, 9 pin, female	D-sub, 9 pin, female	D-sub, 9 pin, female
Connector for CDG (analog output, supply voltage, setpoints)		D-sub, 15 pin, male	D-sub, 15 pin, male	D-sub, 15 pin, male

(1) Non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

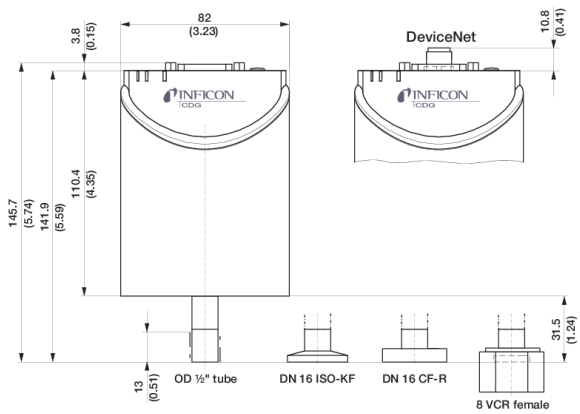
(2) Increase 10 … 90 percent FS

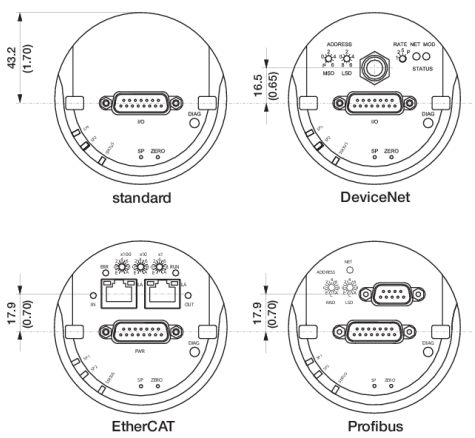
(3) For pressure control type only.

(4) 18% Cr, 10% Ni, 3% Mo, 69% Fe

(5) Ambient temperatures >40°C may increase surface temperatures above SEMI S2 compliance levels

DIMENSIONS





INFICON

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SKY® CDG160D 1 ... 1000 Torr / mbar

INFICON SKY CDG160D high temperature manometers are your best choice for accurate total pressure measurement and control. CDG160D gauges are temperature controlled at 160 °C for superior performance in demanding semiconductor and plasma processes. They are available for full scale ranges from 1 Torr to 1000 Torr, with all common flange types and fieldbus interfaces and provide a linear 0 to 10 V, gas type independent, pressure signal. INFICON capacitance manometers use an ultra pure alumina ceramic diaphragm which is corrosion proof. The advantages of the ceramic sensor are better signal stability, faster recovery from atmosphere, short warm up time and an extraordinary lifetime. INFICON CDG are high quality, cost effective pressure sensors for demanding semiconductor, plasma and vacuum applications.

BENEFITS

- Lower CoO (cost of ownership), 50% faster warm up, energy efficient low power consumption
- Easy integration, wide variety of full scales, flanges and interfaces, standard with two set points
- Easy one push button or remote signal zero command, zero offset adjustable
- Diagnostic port for quick service and maintenance
- Two year warranty, longer life time with heating concept and gauge protection
- No long term recalibration due to excellent signal stability and repeatability, even in harsh plasma applications
- Compliance & standards: CE, EN, UL, SEMI, RoHS

ORDER INFORMATION

3 C E 1 – 6 5 E – 2 3 0 0

Full Scale (F.S.)

1	**6**
2	7
5	8
10	**9**
20	A
50	B
100	**C**
200	D
500	E
(Torr only) **1000**	**F**
(mbar only) 1100	G

Unit

(× 1.33 mbar; × 133 Pa)	**Torr**	**5**
(× 100 Pa)	mbar	6

Flange

1	DN 16 ISO-KF
3	DN 16 CF-R
9	OD 1/2" tube
E	**8 VCR female**

Connector

23	15-pin D-Sub, 2 SP
01	9-pin D-Sub

Fieldbus interface

0	None
1	DeviceNet
2	Profibus
8	EtherCAT

0	Standard
B	P control [1]

[1] Optimised signal filter setting for pressure control.

bold = standard products

Other flange types and full scale ranges (F.S.) on request.

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar
Accuracy (1)	% of reading	0.4	0.4
Temperature effect			
on zero	percent FS/°C	0.005	0.005
Temperature effect			
on span	% of reading / °C	0.02	0.02
Pressure, max.	kPa (absolute)	400	260
Resolution	percent FS	0.003	0.003
Lowest reading	percent FS	0.01	0.01
Lowest suggested reading	percent FS	0.05	0.05
Lowest suggested control pressure	percent FS	0.5	0.5
Temperature			
Operation (ambient)	°C		+10 … +50
Operation (ambient) (4)	°C	+10 … +50	
Bakeout at flange	°C	≤200	≤200
Storage	°C	–40 … +65	–40 … +65
Supply voltage		+21 … +30 V DC or ±15 V (±5%)	+21 … +30 V DC or ±15 V (±5%)
Power consumption			
During Heat up	W	≤18	≤18
At operating temperature	W	≤12	≤12
Output signal (analog)	V (dc)	0 … +10	0 … +10
Response time (2)	ms	30	30
Degree of protection		IP 40	IP 40
Standards			
CE conformity		EN 61000-6-2/-6-3, EN 61010 & RoHS	EN 61000-6-2/-6-3, EN 61010 & RoHS
ETL certification		UL 61010-1, CSA 22.2 No.61010-1	UL 61010-1, CSA 22.2 No.61010-1
SEMI compliance		SEMI S2	SEMI S2
Electrical connection		D-Sub, 15-pin, male	D-Sub, 15-pin, male
Setpoint			
Number of setpoints		2 (SP1,SP2)	2 (SP1,SP2)
Setpoint			
Relay contact	V (dc)	≤30	≤30

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar
Setpoint			
Relay contact	A (dc)	≤0.5	≤0.5
Setpoint			
Hysteresis	percent FS	1	1
Diagnostic port			
Protocol		RS232-C	RS232-C
Read		pressure, status, ID	pressure, status, ID
Set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Materials exposed to vacuum		Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [(3)])	Aluminum oxide ceramic (Al_2O_3), stainless steel (AISI 316L [(3)])
Internal volume			
I. volume 1/2" tube	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)
I. volume DN 16 ISO KF	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)
I. volume DN 16 CF-R	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)
I. volume 8 VCR®	cm³ (in.³)	4.2 (0.26)	4.2 (0.26)
Weight			
Weight 1/2" tube	g	837	837
Weight DN 16 ISO KF	g	852	852
Weight DN 16 CF-R	g	875	875
Weight 8 VCR®	g	897	897
EtherCAT			
Protocol EtherCAT		protocol specialized for EtherCAT	protocol specialized for EtherCAT
Communication standards		ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"	ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"
Node address		Explicit Device Identification	Explicit Device Identification
Physical layer		100BASE-Tx (IEEE 802.3)	100BASE-Tx (IEEE 802.3)
Digital functions read		pressure, status, ID	pressure, status, ID
Digital functions set		set points, filter, zero adjust, reset, DC offset	set points, filter, zero adjust, reset, DC offset

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar
Mailbox (CoE)		SDO requests, responses and information	SDO requests, responses and information
Process data		Fixed PDO mapping and configurable PDO mapping	Fixed PDO mapping and configurable PDO mapping
EtherCAT connector		RJ45, 8-pin (socket), IN and OUT	RJ45, 8-pin (socket), IN and OUT
Cable		shielded Ethernet CAT5e or higher	shielded Ethernet CAT5e or higher
EtherCAT			
Cable length	m (ft.)	≤100 (330)	≤100 (330)
DeviceNet™			
Protocol		DeviceNet™, group 2 slave only	DeviceNet™, group 2 slave only
MAC ID		address 00 - 63 by switch or network programmable	address 00 - 63 by switch or network programmable
Digital functions read		pressure, status, ID	pressure, status, ID
Digital functions set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Specification		DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)	DeviceNet™ "Vacuum Gauge Device Profile" (ODVA)
Device type		"VG" vacuum gauge	"VG" vacuum gauge
I / O slave messaging		polling only	polling only
Supply voltage for gauge at D-sub connector		+14 … +30 VDC or ±15 V / ≤12 W	+14 … +30 VDC or ±15 V / ≤12 W
Supply voltage for DeviceNet transceiver at microstyle connector		24 V nom / <2 W (11 … 25 V)	24 V nom / <2 W (11 … 25 V)
Connector for DeviceNet™		microstyle, 5 pin, male	microstyle, 5 pin, male
Connector for CDG (analog output, supply voltage CDG, setpoints)		D-sub, 15 pin, male	D-sub, 15 pin, male
DeviceNet™			
Data rate	kBaud	125, 250, 500 by switch or network programmable	125, 250, 500 by switch or network programmable
DeviceNet™			
Cable length 125 kbps	m (ft.)	500 (1650)	500 (1650)
Cable length 250 kbps	m (ft.)	250 (825)	250 (825)
Cable length 500 kbps	m (ft.)	100 (330)	100 (330)
Profibus DP			

SPECIFICATIONS

Type		1000 ... 500 Torr / mbar	200 ... 1 Torr / mbar
Baud rates	kBaud	9.6 / 19.2 / 93.75 / 187.5 / 500	9.6 / 19.2 / 93.75 / 187.5 / 500
Profibus DP			
Baud rates	Mbaud	1.5 / 12	1.5 / 12
Profibus DP			
Address		address 00 - 125 by switch or network programmable	address 00 - 125 by switch or network programmable
Digital functions Read		pressure, status, ID	pressure, status, ID
Digital functions Set		set points, filter, zero adjust, factory reset, DC offset	set points, filter, zero adjust, factory reset, DC offset
Connector for Profibus DP		D-sub, 9 pin, female	D-sub, 9 pin, female
Connector for CDG (analog output, supply voltage, setpoints)		D-sub, 15 pin, male	D-sub, 15 pin, male

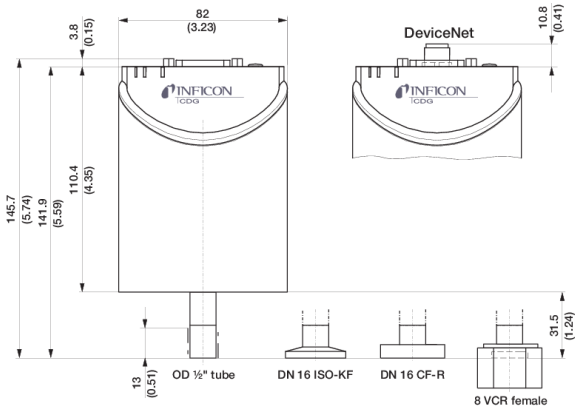
(1) Non-linearity, hysteresis, repeatability at 25 °C ambient operating temperature without temperature effects after 2 hours operation.

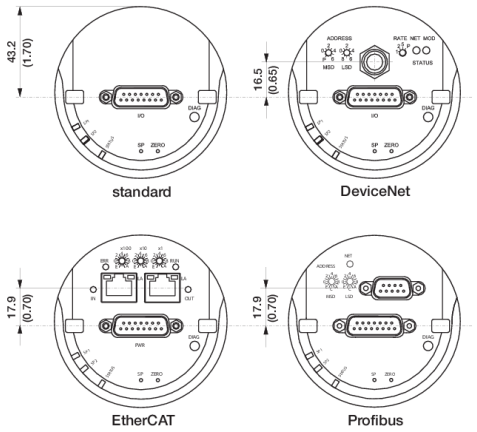
(2) Increase 10 … 90 percent FS

(3) 18% Cr, 10% Ni, 3% Mo, 69% Fe

(4) Ambient temperatures >40°C may increase surface temperatures above SEMI S2 compliance levels

DIMENSIONS





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