Endress+Hauser SICK GmbH+Co. KG
Bergener Ring 27
01458 Ottendorf-Okrilla
Germany
www.addresses.endress.com

Endress+Hauser
People for Process Automation

Brief Operating Instruction en

CID100

Display Unit

1. About this document

These User Instructions contain essential information on the function, installation, start-up, and maintenance of the display unit CID100.

2. Intended use

The CID100 display unit provides a display to show measurement and parameter values of the connected flow meter.

3. Product identification

Product name	CID100
Manufacturer	Endress+Hauser SICK GmbH+Co. KG Bergener Ring 27 01458 Ottendorf-Okrilla Germany

For identification use the information on the type plate.

4. Operation in potentially explosive atmospheres

EX

The CID100 is suitable for use in potentially explosive atmospheres:

IECEx	Ex ia IIC T4 Ga
ATEX	Ⓔx II 1 G Ex ia IIC T4 Ga
cCSAus	Ex ia IIC T4 Ga CL I ZN 0 AEx ia IIC T4 Ga CL I DIV 1 GRP A, B, C, D T4

5. Restrictions of use

- Do not operate the CID100 until you have read the brief operating instructions.
- Observe all safety information.
- If anything is not clear: Please contact Endress+Hauser customer service.

6. Specific condition of use

- The device may only be powered by a power supply unit with a limited energy electric circuit in accordance with CSA/UL/EN/IEC 61010-1:2010 chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
- EUT is not directly connected to supply mains.
- Evaluation for reliability, endurance or functional safety was not part of this investigation.
- Apparatus is allowed to be used in gas group IIA or IIB or IIC or Class I groups A or B or C and D depending on the entity parameters of the intrinsically safe circuit connected to M12 plug.
- Apparatus is designated for use in ambient temperature range from -40 to 70 °C (-40 to 158 °F).
- Ambient temperature of the place where CID100 is installed shall take into account heating from host equipment on which it is installed and shall not exceed the allowed range.
- Temperature at the surfaces of contact between CID100 enclosure and host equipment's enclosure shall not exceed ambient temperature range.
- The maximum inductance in the circuit connected to CID100 shall not exceed Lo values as defined in the entity parameter set for the specific gas group. These limits are valid only for non-combined LC circuits. Combined LC circuits may require a lower inductance limit.
- The resistance of CID100 enclosure to earth shall not exceed 1 GΩ measured at (500 ±25) Vdc, when installed onto the host device.
- Enclosure of the apparatus contains aluminum. Precautions shall be taken to avoid ignition hazard by impact or friction.
- The apparatus is Type 4X rated only when attached to and connected with the host device via an M12 connector, where the connection has been evaluated as Type 4X by CSA.

Documentation code
(KA 8030815 / EHS / EN / 01.00)

7. Installation

The CID100 can only be connected to a suitable interface via a M12 connector. Make sure the 4 screws on the side are fastened properly.

WARNING:
- The following intrinsically safe parameters must be observed.

Parameter	IIA GRP D	IIB GRP C,D	IIC GRP A,B,C,D
U_i/V_{max}	10 V	10 V	10 V
I_i/I_{max}	140 mA	140 mA	140 mA
P_i	1.1 W	1.1 W	1.1 W
C_i	200 nF	200 nF	200 nF
L_i	3 µH	3 µH	3 µH
L_O	416 µH	208 µH	52 µH

CID100 mounted to a flow meters SPU (exemplary)

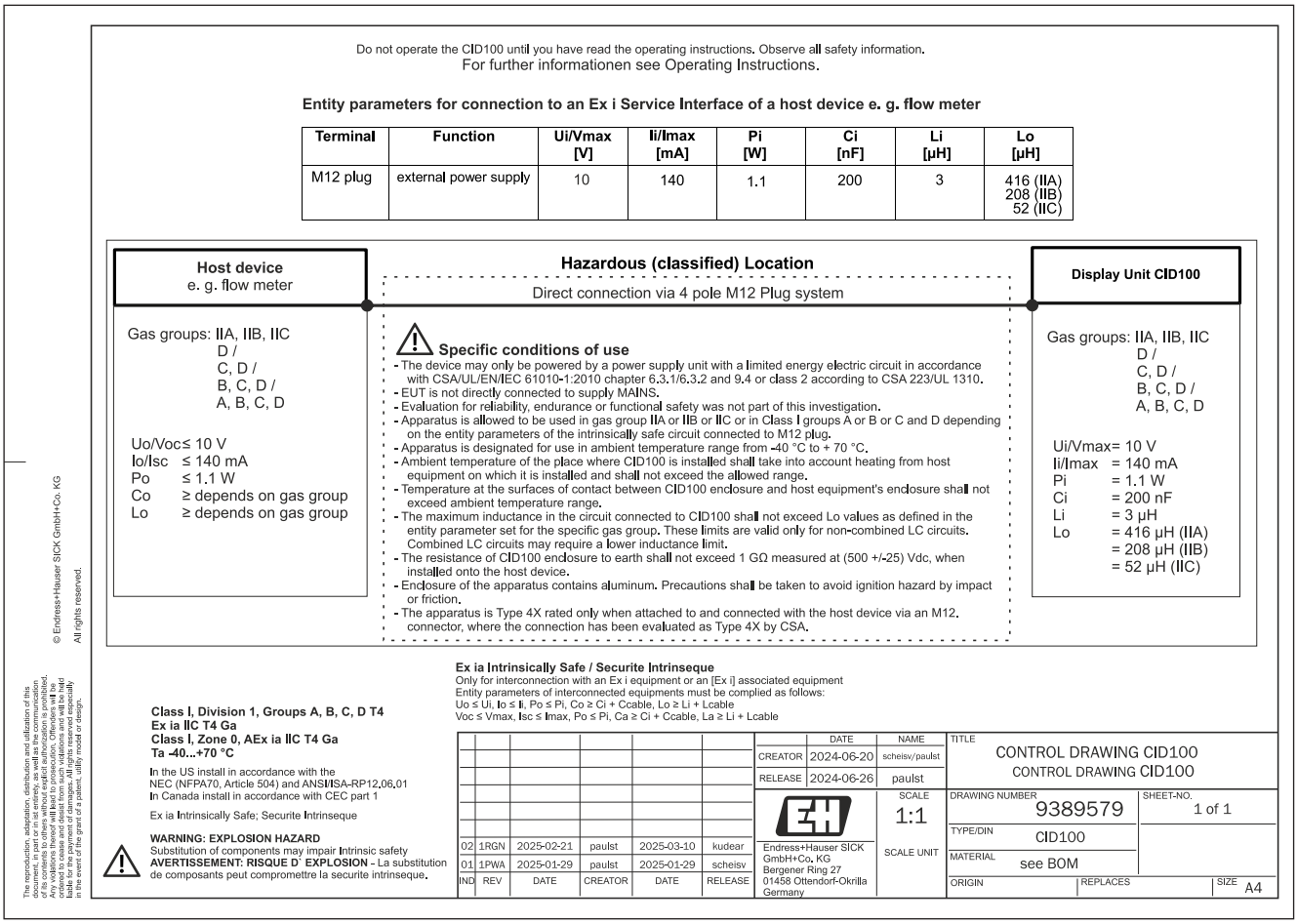
8. Technical data

Electrical connection	
Power supply	3.3 V DC, max. 10 mA
Power consumption	< 50 mW
Ambient conditions	
T_a	-40...70 °C (-40...158 °F)
Ambient pressure	80...110 kPa (0.8...1.1 bar) Altitude up to 2000 m
Ambient humidity	95 % relative humidity; non-condensing
Ex approvals	
IECEx	IECEx CSA 24.0031X
	IEC 60079-0:2018 (Ed. 7) IEC 60079-11:2011 (Ed. 6)
ATEX	CSANe 24ATEX1142X
	EN IEC 60079-0:2018 EN 60079-11:2012
cCSAus	CSA24CA80184458X
	CSA C22.2 No. 60079-0:19 CSA C22.2 No. 60079-11:14 ANSI/UL 60079-0 Ed. 7 ANSI/UL 60079-11 Ed. 6
Ingress protection	IP66 (only when assembled) Type 4X (only when assembled)
Dimensions and weight	
Dimensions (H x L x D)	100 x 100 x 18 mm 3.9 x 3.9 x 0.7 inch
Weight	320 g (0.44 lbs)

9. Open Source licenses

The CID100 display uses open source licenses to display fonts and glyphs. These licenses allow flexible use and adaptation of the fonts and symbols.
On request, Endress+Hauser can provide its customers with the corresponding source code for these fonts and glyphs. For the provision of the source code, please contact the responsible Endress+Hauser Sales Center.

10. Control drawing



Do not operate the CID100 until you have read the operating instructions. Observe all safety information.
For further informationen see Operating Instructions.

Entity parameters for connection to an Ex i Service Interface of a host device e. g. flow meter

Terminal	Function	Ui/Vmax [V]	Ii/Imax [mA]	Pi [W]	Ci [nF]	Li [µH]	Lo [µH]
M12 plug	external power supply	10	140	1.1	200	3	416 (IIA) 208 (IIB) 52 (IIC)

Host device
e. g. flow meter

Gas groups: IIA, IIB, IIC
D /
C, D /
B, C, D /
A, B, C, D

Uo/Voc≤ 10 V
Io/Isc ≤ 140 mA
Po ≤ 1.1 W
Co ≥ depends on gas group
Lo ≥ depends on gas group

Hazardous (classified) Location

Direct connection via 4 pole M12 Plug system

Specific conditions of use
- The device may only be powered by a power supply unit with a limited energy electric circuit in accordance with CSA/UL/EN/IEC 61010-1:2010 chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.
- EUT is not directly connected to supply MAINS.
- Evaluation for reliability, endurance or functional safety was not part of this investigation.
- Apparatus is allowed to be used in gas group IIA or IIB or IIC or in Class I groups A or B or C and D depending on the entity parameters of the intrinsically safe circuit connected to M12 plug.
- Apparatus is designated for use in ambient temperature range from -40 °C to + 70 °C.
- Ambient temperature of the place where CID100 is installed shall take into account heating from host equipment on which it is installed and shall not exceed the allowed range.
- Temperature at the surfaces of contact between CID100 enclosure and host equipment's enclosure shall not exceed ambient temperature range.
- The maximum inductance in the circuit connected to CID100 shall not exceed Lo values as defined in the entity parameter set for the specific gas group. These limits are valid only for non-combined LC circuits. Combined LC circuits may require a lower inductance limit.
- The resistance of CID100 enclosure to earth shall not exceed 1 GΩ measured at (500 +/-25) Vdc, when installed onto the host device.
- Enclosure of the apparatus contains aluminum. Precautions shall be taken to avoid ignition hazard by impact or friction.
- The apparatus is Type 4X rated only when attached to and connected with the host device via an M12. connector, where the connection has been evaluated as Type 4X by CSA.

Display Unit CID100

Gas groups: IIA, IIB, IIC
D /
C, D /
B, C, D /
A, B, C, D

Ui/Vmax= 10 V
Ii/Imax = 140 mA
Pi = 1.1 W
Ci = 200 nF
Li = 3 µH
Lo = 416 µH (IIA)
= 208 µH (IIB)
= 52 µH (IIC)

Class I, Division 1, Groups A, B, C, D T4
Ex ia IIC T4 Ga
Class I, Zone 0, AEx ia IIC T4 Ga
Ta -40...+70 °C

In the US install in accordance with the NEC (NFPA70, Article 504) and ANSI/ISA-RP12.06.01
In Canada install in accordance with CEC part 1

Ex ia Intrinsically Safe; Securite Intrinseque

WARNING: EXPLOSION HAZARD
Substitution of components may impair Intrinsic safety
AVERTISSEMENT: RISQUE D' EXPLOSION - La substitution de composants peut compromettre la securite intrinseque.

Ex ia Intrinsically Safe / Securite Intrinseque
Only for interconnection with an Ex i equipment or an [Ex i] associated equipment
Entity parameters of interconnected equipments must be complied as follows:
Uo ≤ Ui, Io ≤ Ii, Po ≤ Pi, Co ≥ Ci + Ccable, Lo ≥ Li + Lcable
Voc ≤ Vmax, Isc ≤ Imax, Po ≤ Pi, Ca ≥ Ci + Ccable, La ≥ Li + Lcable

IND	REV	DATE	CREATOR	DATE	RELEASE
02	1RGN	2025-02-21	paulst	2025-03-10	kudear
01	1PWA	2025-01-29	paulst	2025-01-29	scheisv

	DATE	NAME
CREATOR	2024-06-20	scheisv/paulst
RELEASE	2024-06-26	paulst

Endress+Hauser SICK GmbH+Co. KG
Bergener Ring 27
01458 Ottendorf-Okrilla
Germany

SCALE 1:1
SCALE UNIT

TITLE
CONTROL DRAWING CID100
CONTROL DRAWING CID100

DRAWING NUMBER 9389579
SHEET-NO. 1 of 1
TYPE/DIN CID100
MATERIAL see BOM
ORIGIN | REPLACES | SIZE A4