

Safety Instructions


Dosimag

ATEX: II3G Ex nA IIC T5 to T1 Gc

IECEX: Zone 2 Ex nA IIC T5 to T1 Gc



Document: XA01332D

Safety Instructions for electrical equipment for use in hazardous areas as per Directive 94/9/EC (ATEX) →  5

BG Правила за техниката на безопасност за електрически средства за производство във взривоопасни зони. Ако не разбирате езика на това ръководство има възможност да си поръчате при нас едно ръководство, преведено на езика на Вашата страна.

Заявление за съответствие с EG

Производителят Endress+Hauser декларира с това заявление за съответствие и с предявяването на сертификата CE, че този продукт отговаря на изискванията на съответните европейски директиви. Прилаганите директиви, норми и документи са указани в заявлението за съответствие.

CS Bezpečnostní pokyny pro elektrické přístroje v místech s nebezpečím výbuchu. Pokud nemáte možnost přečíst si tento návod, můžete si u nás objednat návod přeložený do svého jazyka.

Prohlášení o shodě s E

Společnost Endress+Hauser prohlašuje prostřednictvím tohoto prohlášení a použitím značky CE, že tento výrobek vyhovuje příslušným evropským směrnicím. Zmíněné směrnice, normy a dokumenty jsou uvedeny v Prohlášení o shodě.

DA Sikkerhedsforskrifter for elektriske apparater certificeret til brug i eksplosionsfarlige områder. Hvis du ikke forstår denne manual, kan en oversat kopi af den på dit eget sprog bestilles fra os.

EF-overensstemmelseserklæring

Med denne overensstemmelseserklæring og tilføjjelsen af CE-mærket sikrer producenten Endress+Hauser, at produktet er i overensstemmelse med relevante europæiske direktiver. Dokumentation for overensstemmelsen gives i de anførte direktiver, standarder og dokumenter.

EL Οδηγίες ασφαλείας ηλεκτρικών συσκευών για επικίνδυνες για έκρηξη περιοχές. Σε περίπτωση που δεν μπορείτε να διαβάσετε αυτές τις οδηγίες, τότε μπορείτε να παραγγείλετε ένα αντίτυπο μεταφρασμένο στη γλώσσα σας.

Δήλωση πιστότητας EK

Με αυτή τη δήλωση πιστότητας και την τοποθέτηση του σήματος CE ο κατασκευαστής Endress+Hauser δηλώνει, ότι αυτό το προϊόν συμμορφώνεται με τις ευρωπαϊκές οδηγίες που πρέπει να εφαρμοστούν. Οι οδηγίες, τα πορίσματα και τα έγγραφα που εφαρμόστηκαν αναφέρονται στη δήλωση πιστότητας.

ES Instrucciones de seguridad de aparatos eléctricos homologados para su utilización en áreas expuestas a riesgos de deflagración. Si no entiendes este manual, puede pedir un ejemplar en su idioma.

Declaración de conformidad CE

Por la presente declaración y la inclusión de la marca CE, el fabricante Endress+Hauser, declara que el producto cumple con las directivas europeas pertinentes. Las directivas, normas y documentos de aplicación se indican en la declaración de conformidad.

ET Ohutusjuhised plahvatusohtlikus keskkonnas kasutatavate elektriseadmete kohta. Kui Te ei saa käesolevast juhendist aru, võite meilt tellida Teie riigikeelde tõlgitud juhendi.

EL vastavusdeklaratsioon

Tootja Endress+Hauser kinnitab juurdelisatud vastavusdeklaratsiooni esitamisega ja CE-märgise kandmisega tootele, et käesolev toode vastab kohaldatavate Euroopa Liidu direktiivide nõuetele. Kohaldatavad direktiivid, standardid ja dokumendid on ära toodud vastavusdeklaratsioonis.

FI Turvallisuusohjeita sähkölaitteille, jotka on vahvistettu käytettäväksi räjähdysvaarallisilla alueilla. Jos et ymmärrä tätä käsikirjaa, voit tilata meiltä käännöksen omalla kansallisella kielelläsi.

EU-vaatimustenmukaisuustodistus

Valmistaja Endress+Hauser vakuuttaa täällä vaatimustenmukaisuustodistuksella ja CE-merkin kiinnittämisellä, että tämä tuote täyttää sovellettavien EU-direktiivien määräykset. Sovellettavat direktiivit, normit ja dokumentit on merkitty vaatimustenmukaisuustodistukseen.

HR Sigurnosni naputci za elektromaterijal u sredini u kojoj prijeti opasnost od eksplozije. Ako Vam nije moguće čitati ovaj naputak, onda imate mogućnost da kod nas naručite naputak sastavljen na Vašem materinskom jeziku.

Izjava o usuglašenosti sa normama EZ-a

Obavljač Endress+Hauser jamči ovom izjavom i stavljanjem oznake CE da ovaj proizvod udovoljava zahtjevima europskih direktiva koje su na snazi. U izjavi o usuglašenosti se navode direktive, norme i dokumenti koji su na snazi.

HU Biztonsági információk robbanásveszélyes területre való elektromos eszközökhöz. Amennyiben nem tudja elolvasni ezt az útmutatót, akkor megrendelheti az Ön anyanyelvére lefordítva is.

EK-megfeleléségi nyilatkozat

Az Endress+Hauser mint gyártó jelen megfeleléségi nyilatkozattal és a CE-jelzés felhelyezésével kijelenti, hogy ez a termék megfelel az alkalmazandó európai irányelveknek. Az alkalmazott irányelvek, szabványok és dokumentumok a megfeleléségi nyilatkozatban fel vannak tüntetve.

IT Istruzioni di sicurezza per apparecchiature elettriche certificate per l'utilizzo in aree con pericolo di esplosione. Se il presente manuale non risulta comprensibile potete ordinarne una copia tradotta nella vostra lingua.

Dichiarazione di conformità CE

Con questa dichiarazione e con l'applicazione del marchio CE, il costruttore Endress+Hauser, assicura che il prodotto è conforme alle direttive europee vigenti. Prova della conformità è fornita dall'osservanza delle direttive, delle norme e dei documenti elencati.

- LT Elektros įrenginio saugumo nurodymai, susiję su sprogimo zonomis. Jeigu negalite perskaityti šios instrukcijos, kreipkitės į mus, kad užsisakytumėte į jūsų gimtąją kalbą išverstą instrukciją.
- EB atitikties deklaracija**
Gamintojas Endress+Hauser šia atitikties deklaracija ir CE ženkliniu patvirtina, kad gaminys atitinka taikytinas ES direktyvas. Taikomos direktyvos, normos ir dokumentai yra pateikiami atitikties deklaracijoje.
- LV Drošības norādījumi elektrisko darba instrumentu lietošanai apgabalos, kas pakļauti sprādzienbīstamībai. Ja Jums nav iespēju izlasīt šos norādījumus, Jūs varat pasūtīt pie mums tulkojumu Jūsu valsts valodā.
- ES atbilstības apliecinājums**
Ražotājs Endress+Hauser ar šo atbilstības apliecinājumu un CE zīmola lietojumu apstiprina, ka produkts izgatavots saskaņā ar atbilstošajām Eiropas vadlīnijām. Piemērotās vadlīnijas, normas un dokumenti atrunāti atbilstības apliecinājumā.
- NL Veiligheidsinstructies voor elektrisch materieel in explosiegevaarlijke omgeving. Wanneer u deze handleiding niet kunt lezen, kunt u een in uw landstaal vertaalde handleiding bij ons bestellen.
- EG Conformiteitsverklaring**
De leverancier Endress+Hauser waarborgt met deze verklaring en het aanbrengen van het CE-teken, dat dit product overeenstemt met de geldende Europese richtlijnen. De geldende richtlijnen, normen en documenten zijn aangegeven in de conformiteitsverklaring.
- PL Wskazówki dot. bezpieczeństwa dla urzędzeń elektrycznych stosowanych w obszarze zagrożonym wybuchem. Jeśli niniejsza instrukcja napisana jest w języku, którym się nie posługujesz, możesz zamówić u nas przetłumaczony dokument.
- Deklaracja zgodności WE**
Producent Endress+Hauser w niniejszej deklaracji zgodności wraz z nadaniem znaku CE oświadcza, że produkt ten jest zgodny z obowiązującą Europejską Dyrektywą. Zastosowane wytyczne, normy oraz dokumenty podane są w deklaracji zgodności.
- PT Instruções de segurança para dispositivos eléctricos certificados para utilização em áreas de risco de incêndio. Se não compreender este manual, pode encomendar-nos directamente uma cópia na sua língua.
- Declaração de conformidade CE**
Com esta declaração de conformidade e a aplicação da marca CE, o fabricante Endress+Hauser, garante que o produto obedece às directivas europeias a aplicar. As directivas, normas e documentos são apresentadas na declaração de conformidade.
- RO Indicații de siguranță pentru mijloacele de producție electrice pentru zonele periclitare de explozie. Dacă nu puteți citi aceste instrucțiuni, atunci puteți comanda la noi instrucțiunile traduse în limba țării dumneavoastră.
- Declarație de conformitate CE**
Producătorul Endress+Hauser declară prin declarația de conformitate alăturată și prin aplicarea semnului CE că acest produs corespunde directivelor europene aplicabile. Directivele, normele aplicate și documentele sunt menționate în declarația de conformitate.
- SK Bezpečnostné pokyny pre elektrické zariadenie prevádzkované v priestoroch s nebezpečnosťou výbuchu. Ak nemáte možnosť 'prečítať' si tento návod, môžete si u nás objednať návod preložený do svojho jazyka.
- Vyhľadanie o konformite s ES**
Spoločnosť Endress+Hauser vyhlasuje prostredníctvom tohto vyhlásenia o konformite a použitím značky CE, že tento výrobok vyhovuje príslušným európskym smerniciam. Zmieňované smernice, normy a dokumenty sú uvedené vo Vyhlásení o konformite.
- SL Varnostni napotki glede električne opreme, namenjene za uporabo v eksplozivnih območjih. Če teh navodil ne morete razumeti, lahko pri nas naročite prevod v vaš jezik.
- Pojasnilo glede potrdila o skladnosti EU**
Proizvajalec Endress+Hauser s to izjavo o skladnosti in navedbo oznake CE izjavlja, da je ta izdelek skladen s predpisanimi evropskimi smernicami. Upoštewane smernice, standardi in dokumenti so navedeni v izjavi o skladnosti.
- SV Säkerhetsföreskrifter för elektrisk utrustning certifierad för användning i explosionsfarliga områden. Om du inte förstår denna manual, kan en översatt kopia på ditt eget språk beställas från oss.
- EG-försäkran om överensstämmelse**
Endress+Hauser försäkras med vidstående försäkran om överensstämmelse och med CE-märkningen att denna produkt överensstämmer med de tillämpbara europeiska riktlinjerna. De tillämpade riktlinjerna, normerna och dokumenten anges i försäkran om överensstämmelse.

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Associated documentation

All documentation is available:

- On the CD-ROM supplied (not included in the delivery for all device versions).
- Available for all device versions via:
 - Internet: www.endress.com/deviceviewer
 - Smart phone/tablet: *Endress+Hauser Operations App*
- In the Download Area of the Endress+Hauser web site: www.endress.com → Download

This document is an integral part of the following Operating Instructions:

Measuring device	Documentation code	
	Pulse/frequency/status output Option 3	Modbus RS485 Options 4, 5 and 6
Dosimag	BA00098D	BA01321D

Additional documentation:

Document type	Contents	Documentation code
Brochure	Explosion Protection	CP00021Z/11

Please note the documentation associated with the device.

Manufacturer's certificates

EC Declaration of Conformity

Documentation code: EC_00283

IEC certificate of conformity

Certificate number:

IECEX CSA 16.0056

Affixing the certificate number certifies conformity with the standards under www.IECEX.com (depending on the device version).

- IEC 60079-0: 2011
- IEC 60079-15: 2010

Extended order code

The extended order code is indicated on the nameplate, which is affixed to the device in such a way that it is clearly visible. Additional information about the nameplate is provided in the associated Operating Instructions.

Structure of the extended order code



* = Spaceholder: At this position, an option (number or letter) selected from the specification is displayed instead of the placeholders.

- **Device type**
 The device and the device design is defined in the "Device type" section (Product root).
- **Basic specifications**
 The features that are absolutely essential for the device (mandatory features) are specified in the basic specifications. The number of positions depends on the number of features available. The selected option of a feature can consist of several positions.
- **Optional specifications**
 The optional specifications describe additional features for the device (optional features). The number of positions depends on the number of features available. The features have a 2-digit structure to aid identification (e.g. JA). The first digit (ID) stands for the feature group and consists of a number or a letter (e.g. J = test, certificate). The second digit constitutes the value that stands for the feature within the group (e.g. A = 3.1 material (wetted parts), inspection certificate).

More detailed information about the device is provided in the following tables. These tables describe the individual positions and IDs in the extended order code which are relevant to hazardous locations.

Device type

Item	Order code	Option selected	Description
1	Instrument family	5	Electromagnetic flowmeter
2	Version	B, C, D, R, S	Device version
3	Sensor	H	Sensor type
4, 5	Nominal diameter	04, 08, 12, 15, 22, 26	Nominal diameter of sensor

Basic specifications

Item	Order code	Option selected	Description
5	Certificate	M	MID (MI-005) Europe
		N	NTEP (USA)
		O	CoC OIML R117

Item	Order code	Option selected	Description
		P	NTEP (USA) +CRN + Pressure test tube
		R	CoC OIML R117 + CRN + Pressure test tube
6	Approval	S	II3G Ex nA IIC T5 to T1 Gc
		B	Zone 2 Ex nA IIC T5 to T1 Gc
12	Output	3	Pulse/frequency/status output
		4	Modbus RS485 (1 x batching output)
		5	Modbus RS485 (2 x batching output)
		6	Modbus RS485 (custody transfer mode)

**Safety
instructions:
General**

- Staff must meet the following conditions for mounting, electrical installation, commissioning and maintenance of the device:
 - Be suitably qualified for their role and the tasks they perform.
 - Be trained in explosion protection.
 - Be familiar with national regulations (e.g. IEC/EN 60079-14).
- Install the device according to the manufacturer's instructions and national regulations.
- Do not operate the device outside the specified electrical, thermal and mechanical parameters.
- Only use the device in media to which the wetted materials have sufficient durability.
- Refer to the temperature tables for the relationship between the permitted ambient temperature for the sensor and/or transmitter, depending on the range of application, and the temperature classes.
- Modifications to the device can affect the explosion protection and must be carried out by staff authorized to perform such work by Endress+Hauser.
- Observe all the technical data of the device (see nameplate).

Safety instructions:
Installation

- Use only cable entries and M12 x 1 connectors that are suitable and certified for the application. Observe selection criteria as per IEC/EN 60079-14.
- Seal unused entry glands with approved sealing plugs that correspond to the type of protection. The plastic transport sealing plug does not meet this requirement and must therefore be replaced during installation.
- To guarantee the housing protection, tighten the connector plugs and sealing plugs.
- In potentially explosive atmospheres, do not remove the electrical connection for the power circuit or the plug connections when energized.
- Devices of type 5*H**.**** (M/N/O/P/R)B***** (3/6)+#**# shall be installed in an enclosure meeting a minimum ingress protection of IP54 in accordance to EN 60079-0!

Potential equalization

- Integrate the device into the local potential equalization .
- If the ground connection has been established via the pipe as specified, it is also possible to integrate the sensor into the potential equalization system via the pipe.

Temperature tables

Ambient temperature

Minimum ambient temperature:

$$T_a = -40\text{ °C}$$

Maximum ambient temperature:

$T_a = +60\text{ °C}$ depending on the medium temperature and temperature class

Medium temperature

Maximum medium temperature:

T_m for T1...T5 depending on the maximum ambient temperature T_a

	°C				
	T5 [100 °C]	T4 [135 °C]	T3 [200 °C]	T2 [300 °C]	T1 [450 °C]
Ambient temperature T_a	60	50	45	45	45
Maximum medium temperature T_m	70	105	130	130	130

Connection data:
Signal circuits

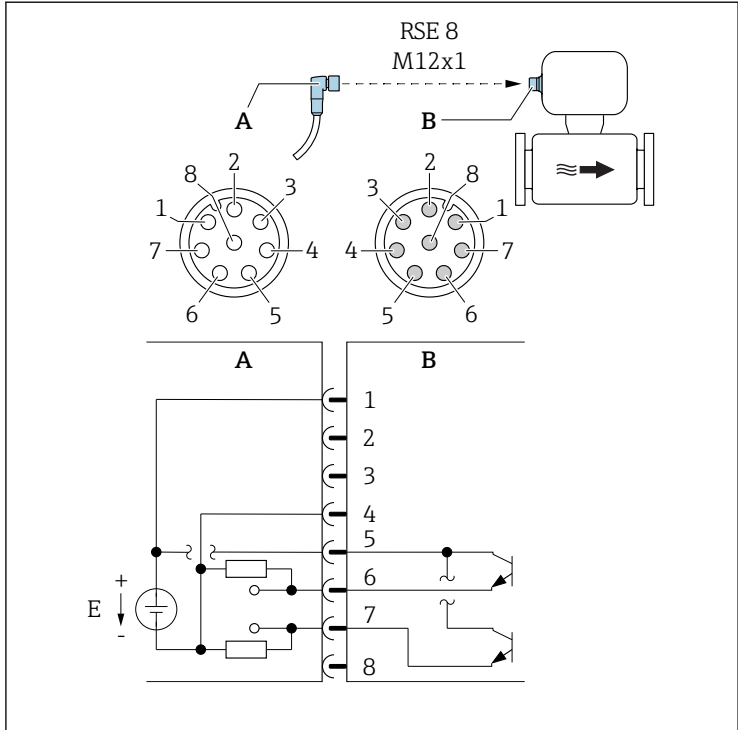
The following tables contain specifications which are dependent on the transmitter type and its input and output assignment. Compare the following specifications with those on the nameplate of the transmitter.

Pin assignment, device plug

Device version: 2 pulse/frequency/switch outputs

Order code for "Output, input", option 3:

2 Pulse/frequency/switch output



1 Connection to device

A Coupling: Supply voltage, pulse/freq./switch output

B Connector: Supply voltage, pulse/freq./switch output

E PELV or SELV power supply

1 to 8 Pin assignment

8

Pin assignment

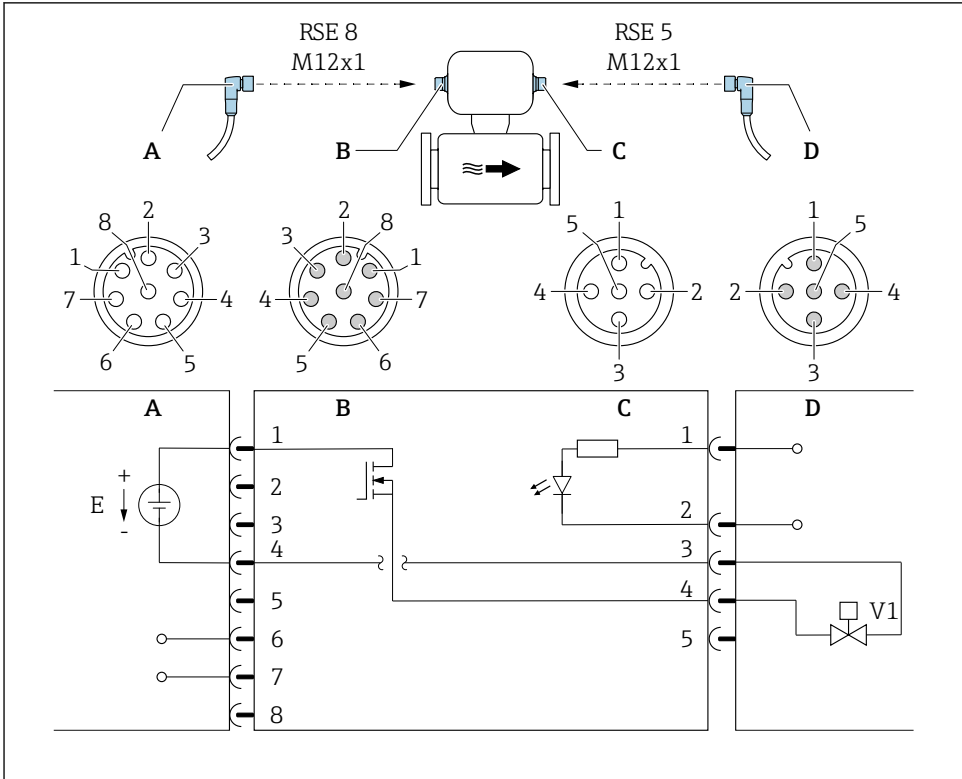
Connection: Coupling (A) – Connector (B)		
Pin	Assignment	
1	L+	Supply voltage
2	+	Service interface RX

Connection: Coupling (A) – Connector (B)		
Pin	Assignment	
3	+	Service interface TX
4	L-	Supply voltage
5	+	Pulse/frequency/switch output
6	-	Pulse/frequency/switch output 1
7	-	Pulse/frequency/switch output 2
8	-	Service interface GND

Device version: *Modbus RS485, status output and status input*

Order code for "Output, input", option 4:

Modbus RS485, 1 switch output (batch), 1 status input



A0032570

2 Connection to device

A Coupling: Supply voltage, Modbus RS485

B Connector: Supply voltage, Modbus RS485

C Coupling: Switch output (batch), status input

D Connector: Switch output (batch), status input

E PELV or SELV power supply

V1 Valve 1 (batch)

1 to Pin assignment

8

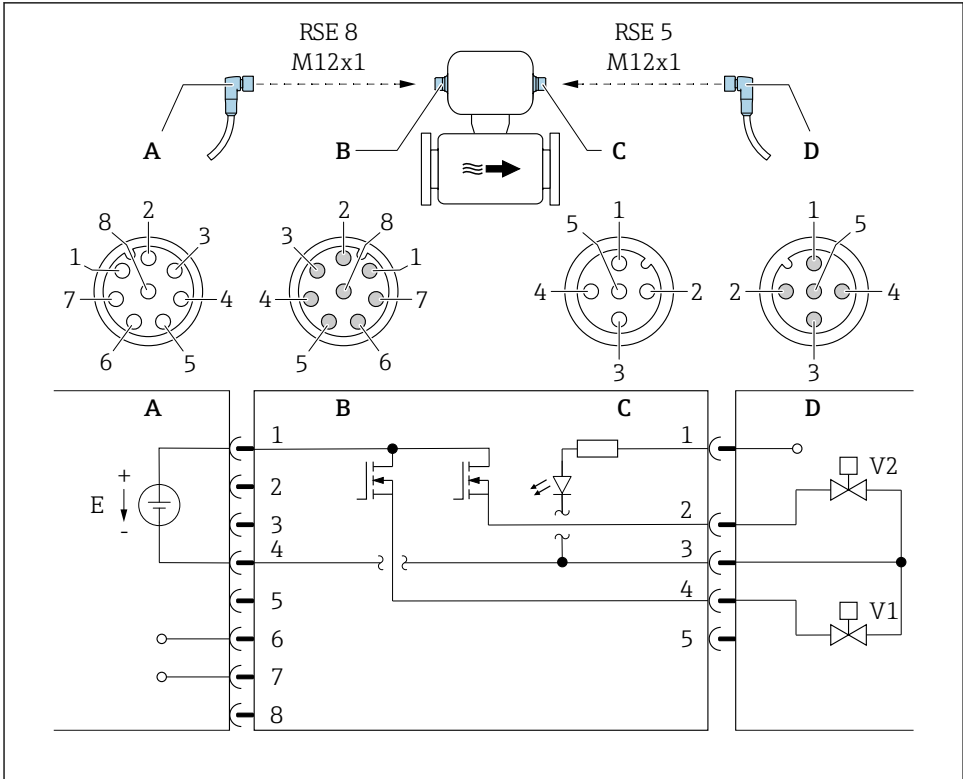
Pin assignment

Connection: Coupling (A) – Connector (B)			Connection: Coupling (C) – Connector (D)		
Pin	Assignment		Pin	Assignment	
1	L+	Supply voltage	1	+	Status input
2	+	Service interface RX	2	-	Status input
3	+	Service interface TX	3	-	Switch output (batch)
4	L-	Supply voltage	4	+	Switch output (batch)
5	Not assigned		5	Not assigned	
6	A	Modbus RS485			
7	B	Modbus RS485			
8	-	Service interface GND			

Device version: Modbus RS485 , 2 status outputs and status input

Order code for "Output, input", option 5:

Modbus RS485, 2 switch outputs (batch), 1 status input



A0032571

3 Connection to device

A Coupling: Supply voltage, Modbus RS485

B Connector: Supply voltage, Modbus RS485

C Coupling: Switch outputs (batch), status input

D Connector: Switch outputs (batch), status input

E PELV or SELV power supply

V1 Valve (batch), level 1

V2 Valve (batch), level 2

1 to Pin assignment

8

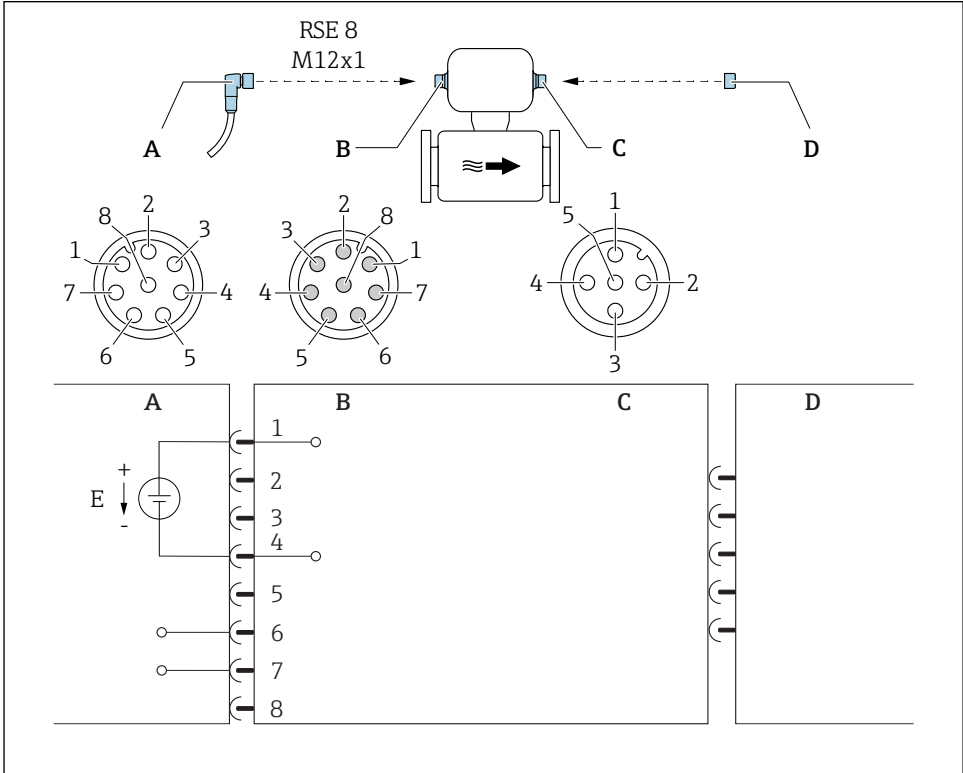
Pin assignment

Connection: Coupling (A) – Connector (B)			Connection: Coupling (C) – Connector (D)		
Pin	Assignment		Pin	Assignment	
1	L+	Supply voltage	1	+	Status input
2	+	Service interface RX	2	+	Switch output (batch) 2
3	+	Service interface TX	3	-	Switch outputs, status input
4	L-	Supply voltage	4	+	Switch output (batch) 1
5	Not assigned		5	Not assigned	
6	A	Modbus RS485			
7	B	Modbus RS485			
8	-	Service interface GND			

Device version: *Modbus RS485 (custody transfer mode)*

Order code for "Output, input", option 6 (device version for custody transfer mode):

Modbus RS485



A0032572

4 Connection to device

- A Coupling: Supply voltage, Modbus RS485
- B Connector: Supply voltage, Modbus RS485
- C Coupling at device
- D Connector: Dongle (hardware write protection for custody transfer mode)
- E PELV or SELV power supply

Pin assignment

Connection: Coupling (A) – Connector (B)			Connection: Coupling (C) – Connector (D)	
Pin	Assignment		Pin	Assignment
1	L+	Supply voltage	1	NC
2	+	Service interface RX	2	NC
3	+	Service interface TX	3	NC
4	L-	Supply voltage	4	+
5	Not assigned		5	-
6	A	Modbus RS485		
7	B	Modbus RS485		
8	-	Service interface GND		

Power consumption

4.5 W

www.addresses.endress.com
