
Instruction Manual

Model WU10

VP cable



(BG)

Всички улътвания за продукти от серията ATEX Ex се предлагат на английски език. Ако се нуждаете от улътвания за продукти от серията Ex на родния ви език, се свържете с най-близкия офис или представителство на фирма Yokogawa.

(CZ)

Všechny uživatelské příručky pro výrobky, na něž se vztahuje nevýbušné schválení ATEX Ex, jsou dostupné v angličtině. Požadujete-li pokyny týkající se výrobků s nevýbušným schválením ve vašem lokálním jazyku, kontaktujte prosím vaši nejbližší reprezentační kancelář Yokogawa.

(D)

Alle Betriebsanleitungen für ATEX Ex bezogene Produkte stehen in den Sprachen Englisch. Sollten Sie die Betriebsanleitungen für Ex-Produkte in Ihrer Landessprache benötigen, setzen Sie sich bitte mit Ihrem örtlichem Yokogawa-Vertreter in Verbindung.

(DK)

Alle brugervejledninger for produkter relateret til CE er tilgængelige på engelsk. Skulle De ønske yderligere oplysninger om håndtering af CE produkter på eget sprog, kan De rette henvendelse herom til den nærmeste Yokogawa afdeling eller forhandler.

(EST)

Kõik ATEX Ex toodete kasutamishendid on esitatud inglise keeles. Ex seadmete muukeelse dokumentatsiooni saamiseks pöörduge lähima lokagava (Yokogawa) kontori või esindaja poole.

(E)

Todos los manuales de instrucciones para los productos antiexplosivos de ATEX están disponibles en inglés. Si desea solicitar las instrucciones de estos artículos antiexplosivos en su idioma local, deberá ponerse en contacto con la oficina o el representante de Yokogawa más cercano.

(F)

Tous les manuels d'instruction des produits ATEX Ex sont disponibles en langue anglaise. Si vous nécessitez des instructions relatives aux produits Ex dans votre langue, veuillez bien contacter votre représentant Yokogawa le plus proche.

(GB)

All instruction manuals for ATEX Ex related products are available in English. Should you require Ex related instructions in your local language, you are to contact your nearest Yokogawa office or representative.

(GR)

Όλα τα εγχειρίδια λειτουργίας των προϊόντων με ATEX Ex διατίθενται στα Αγγλικά. Σε περίπτωση που χρειάζεστε οδηγίες σχετικά με Ex στην τοπική γλώσσα παρακαλούμε επικοινωνήστε με το πλησιέστερο γραφείο της Yokogawa η αντιπροσωπο της.

(H)

Az ATEX Ex műszerek gépkönyveit angol nyelven adjuk ki. Amennyiben helyi nyelven kéri az Ex eszközök leírásait, kérjük keressék fel a legközelebbi Yokogawa irodát, vagy képviselőt.

(I)

Tutti i manuali operativi di prodotti ATEX contrassegnati con Ex sono disponibili in inglese. Se si desidera ricevere i manuali operativi di prodotti Ex in lingua locale, mettersi in contatto con l'ufficio Yokogawa più vicino o con un rappresentante.

(LV)

Visas ATEX Ex kategorijas izstrādājumu Lietošanas instrukcijas tiek piegādātas angļu valodās. Ja vēlaties saņemt Ex ierīšu dokumentāciju citā valodā, Jums ir jāsazinās ar firmas Jokogava (Yokogawa) tuvāko ofisu vai pārstāvi.

(LT)

Visos gaminiø ATEX Ex kategorijos Eksploatavimo instrukcijos teikiami anglø kalbomis. Norëdami gauti priestaisø Ex dokumentacijà kitomis kalbomis susisiekitè su artimiausiu bendrovës Yokogawa biuru arba atstovu.

(M)

Il-manwali kollha ta' l-istruzzjonijiet għal prodotti marbuta ma' ATEX Ex huma disponibbli bl-Ingliż. Jekk tkun tehtieġ struzzjonijiet marbuta ma' Ex fil-lingwa lokali tiegħek, għandek tikkuntattja lill-eqreb rappreżentant jew ufficiju ta' Yokogawa.

(NL)

Alle handleidingen voor producten die te maken hebben met ATEX explosiebeveiliging (Ex) zijn verkrijgbaar in het Engels. Neem, indien u aanwijzingen op het gebied van explosiebeveiliging nodig hebt in uw eigen taal, contact op met de dichtstbijzijnde vestiging van Yokogawa of met een vertegenwoordiger.

(P)

Todos os manuais de instruções referentes aos produtos Ex da ATEX estão disponíveis em Inglês. Se necessitar de instruções na sua língua relacionadas com produtos Ex, deverá entrar em contacto com a delegação mais próxima ou com um representante da Yokogawa.

(PL)

Wszystkie instrukcje obsługi dla urządzeń w wykonaniu przeciwwybuchowym Ex, zgodnych z wymaganiami ATEX, dostępne są w języku angielskim. Jeżeli wymagana jest instrukcja obsługi w Państwa lokalnym języku, prosimy o kontakt z najbliższym biurem Yokogawy.

(RO)

Toate manualele de instructiuni pentru produsele ATEX Ex sunt in limba engleza. In cazul in care doriti instructiunile in limba locala, trebuie sa contactati cel mai apropiat birou sau reprezentant Yokogawa.

(S)

Alla instruktionsböcker för ATEX Ex (explosionssäkra) produkter är tillgängliga på engelska. Om Ni behöver instruktioner för dessa explosionssäkra produkter på annat språk, skall Ni kontakta närmaste Yokogawakontor eller representant.

(SF)

Kaikkien ATEX Ex-tyyppisten tuotteiden käyttöohjeet ovat saatavilla englannin-. Mikäli tarvitsette Ex-tyyppisten tuotteiden ohjeita omalla paikallisella kielellänne, ottakaa yhteyttä lähimpään Yokogawa-toimistoon tai -edustajaan.

(SK)

Všetky návody na obsluhu pre prístroje s ATEX Ex sú k dispozícii v jazyku anglickom. V prípade potreby návodu pre Ex-prístroje vo Vašom národnom jazyku, skontaktujte prosím miestnu kanceláriu firmy Yokogawa.

(SLO)

Vsi predpisi in navodila za AEX Ex sorodni pridelki so pri roki v anglišèini. Èe so Ex sorodna navodila potrebna v vašem tukejnem jeziku, kontaktirajte vaš najbliši Yokogawa office ili predstavnika.

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1. Preface

1.1. Introduction

This instruction manual provides information for the installation and use of the WU10 cable. This universal sensor cable is specified for reliable transfer of digital signals and especially designed to be installed in a heavy industrial environment.

This multicore shielded cable is available in 5 fixed lengths, both in a single and a dual coax version. The double shielded cable will protect both the sensor and the analyzer for interference from high voltages and currents which are present on other cables.

1.2. Unpacking & Checking

Upon delivery, unpack the product carefully and inspect it to ensure that it is not damaged during shipment. If damage is found, retain the original packing material and immediately notify the carrier and the relevant local Yokogawa Sales office. Make sure the Model Code and Serial Number on the product are the same as on the packing list. Also check if option(s) that were ordered, are included and correct.

1.3. Warranty & Service

Yokogawa products are guaranteed free from defects in workmanship and materials under normal use and service for a period of (typically) 12 months from the date of shipment from the manufacturer. Individual Sales organizations can deviate from the typical warranty period, and the conditions of sale relating to the original purchase order should be consulted.

Damage caused by wear and tear, inadequate maintenance, corrosion, or by the effects of chemical processes is excluded from this warranty coverage. In the event of a warranty claim, the defective goods should be sent (freight paid) to the Service Department of the relevant Yokogawa Sales office for repair or replacement (at Yokogawa's discretion). The following information must be included in the letter accompanying the returned goods:

- Model Code and Serial Number.
- Original Purchase Order and Date.
- Length of time in service and description of the process.
- Description of the fault and circumstances of the failure.
- Process/environmental conditions that may be related to the failure of the sensor.
- Statement as to whether warranty or non-warranty service is requested.
- Complete shipping and billing instructions for return of material, plus the name and phone number of a contact person that can be reached for further information.
- Clean Statement Returned goods that have been in contact with process fluids must be decontaminated and disinfected prior to shipment.

Goods should carry a certificate to this effect, for the health and safety of our employees. Material Safety Data sheets must be included for all components of the process to which the sensor (options) have been exposed.

2. General Specifications

2.1 Specifications WU10-V-

	WU10-V-S-...-	WU10-V-D-...-
Description	Multicore shielded cable with one low noise coax and three insulated wires	Multicore shielded cable with two low noise coaxes and four insulated wires
Max. Temperature	90°C continuously and 105°C for max. 1000 hr	105°C continuously and 125°C for max. 3000 hr
Sheath	PVC	Thermoplastic Rubber sheath copper stabilized
Colour	Black	Black
Diameter	6,5 mm	7 mm
Internal insulation	HDPE (Polyethylene)	Thermoplastic Rubber sheath copper stabilized
Isolation resistance	> 1,5 * 10 ¹³ Ohm between E, F and overall shield	> 1,5 * 10 ¹³ Ohm between E, F,G,H and overall shield > 0,5 * 10 ¹³ Ohm between black wire and overall shield >1,5 * 10 ¹⁴ Ohm between A and overall shield >1,5 * 10 ¹⁴ Ohm between A and overall shield
Capacity	< 100 pF/m between A and overall shield < 120 pF/m between A and B	< 90 pF/m between A,C and overall shield < 120 pF/m between A and B and between C and D
Resistance	< 350 pF/m between B and overall shield < 100 kOhm/km for A < 45 kOhm/km for wire C, E and F <100 kOhm/km for wire D	< 350 pF/m between B, D and overall shield < 100 kOhm/km for A and C < 45 kOhm/km for wire C, E and F <100 kOhm/km for wire D
Coaxial cable	Brown; Thermoplastic Rubber sheath After termination core lead insulation transparent and shield insulated with brown cover Diameter 3,3 mm	Brown or white Thermoplastic Rubber sheath copper stabilized After termination core lead insulation transparent and shield insulated with brown or white cover Diameter 2,7 mm
Wire D	Bare drain wire covered with yellow insulation after termination (overall shield)	
Wire C	Black cover diameter 1,2 mm	Red cover diameter 1,4 mm
Wire E	Red cover diameter 1,5 mm	Blue cover diameter 1,4 mm
Wire F	Blue cover diameter 1,5 mm	Yellow cover diameter 1,4 mm
Wire G	n/a	Yellow cover diameter 1,4 mm
Wire H	n/a	Green cover diameter 1,4 mm

**Table 1: Flame retardant in accordance to IEC 60332-1
Ingress protection in accordance with IP67**

3. Installation

3.1 Connections of VP single coax cable

The numbers in the table refer to the numbers of the terminals in the instrument.

	Transparent	Brown	Black	Yellow	Red	Blue		
	A	B	C	D	E	F	Jumper	Instrument
FU24/FU20: pH+ORP(rH)	15	13	16	14	11	12		PH202 / PH402
FU24/FU20: pH / ref	15	13	16	14	11	12		
FU24/FU20: ORP / ref	-	13	16	15	11	12	13-14	
FU24/FU20: ORP / pH	13	-	16	15	11	12	15-14	
Polagraphic DO sensor (OXYgold)	17	18	-	14	11	12	-	DO202 DO402
Galvanic DO sensor	13	15	-	(14)	11	12	-	
2-electrode conductivity sensor	15	16	13	14	11	12	13-14 15-16	SC402 / SC202 SC450 / SC150
4-electrode conductivity sensor	16	15	13	14	11	12	-	

Tabel 2

The numbers (11- 17) in the table refer to the numbers on the terminals in EXA Instruments. Other instruments are indicated in the following tables

PH100				
function	pin ID	Color	name	number
pH	A	Transparent	GE	12
Ref	B	Brown	RE	14
	C	Black		
Ground el.	D	Yellow	SE	16
TC	E	Red	T1	17
TC	F	Blue	T2	18

Tabel 3

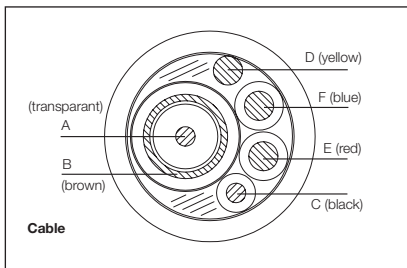


Figure 1
IM 12B6W2-02E-E

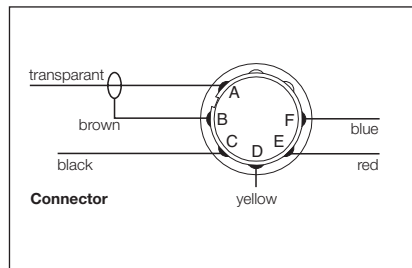


Figure 2

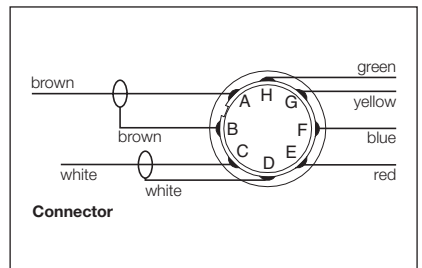
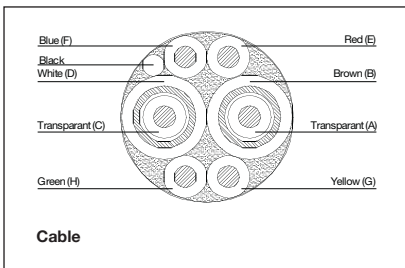
3.2 Connections of VP dual coax cable

The numbers in the table refer to the numbers of the terminals in the instrument.

	Transparent (Brown core)	Brown	Transparent (White core)	White	Red	Blue	Yellow	Green	Black	Jumper	Instrument
	A	B	C	D	E	F	G	H			
SC24V pH + pNA + ORP(rH)	15	16	13	17	11	12	14	-	(63) (3)	none	PH202 PH402 PH450 PH150
FU24/FU20: pH + ORP(rH)	15	13	16	14	11	12	-	-	(63) (3)	-	
FU24/FU20: pH / ref	15	13	16	14	11	12	-	-	(63) (3)	-	
FU24/FU20: ORP / ref	-	13	16	15	11	12	-	-	(63) (3)	13-14	
FU24/FU20: ORP / pH	13	-	16	15	11	12	-	-	(63) (3)	15-14	
Polagraphic DO sensor (OXYgold)	17	18	-	14	11	12	-	-	(63) (3)	-	DO202 DO402
Galvanic DO sensor	13	15	-	(14)	11	12	-	-	(63) (3)	-	SC402
2-electrode conductivity sensor	15	16	13	14	11	12	-	-	(63) (3)	13-14 15-16	SC202 SC450
4-electrode conductivity sensor	16	15	13	14	11	12	-	-	(63) (3)	-	SC150

Table 4

The numbers (11- 17) in the table refer to the numbers on the terminals in EXA Instruments. Other instruments are indicated in the following tables



4. Model and Suffix codes

Model	Suffix Code	Description
WU10		Sensor cable
Connector type	-V	Variopin
Cable type	-S	Single Coax
	-D	Dual Coax
Cable length	-02	2 meters
	-05	5 meters
	-10	10 meters
	-15	15 meters
	-20	20 meters

5. Pin lay-out for Variopin sensors

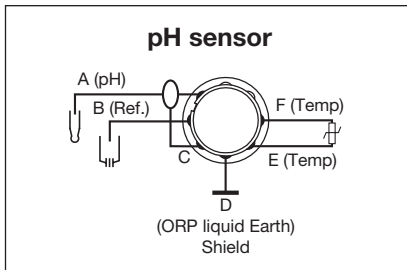


Figure 5

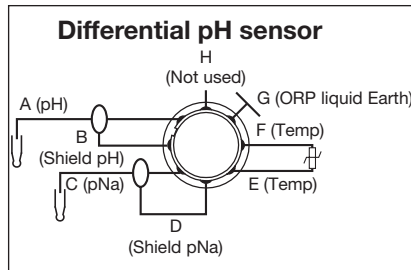


Figure 6

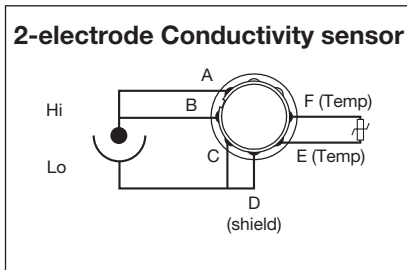


Figure 7

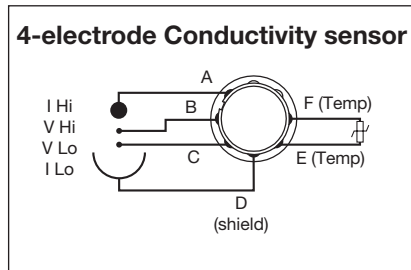


Figure 8

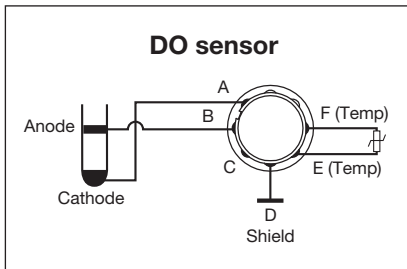


Figure 9

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