

# Instruction Manual

## Model WU11 Interconnection/Extension Cable for SENCOM® Products

### 1 GENERAL

#### 1.1 INTRODUCTION

The WU11 interconnection and extension cable is specified for reliable transfer of digital signals between the SENCOM products and SA11 module and Yokogawa FLXA analyzer. (Suffix -V is for FU20F, FU24F, SC25F and IB100 / Suffix -S is for SENCOM SA11, BA11 and IB100). It is especially designed to be installed in a heavy industrial environment. The double shielded cable will protect the connected devices for interference from high voltages and currents which are present on other cables. The cable is specified to be used in IP67 applications, allowing it to be submerged as a whole. The cable has a wide temperature operation range which is sufficient for most of the applications. The materials used for the cable are flame retardant to resist the spread of fire.

Depending on cable layout there is a choice of 8 different length to suit the customers needs.

#### 1.2 Unpacking & Checking

Upon delivery, unpack the cable carefully and inspect it to ensure that it is not damaged during shipment. If damage is found, retain the original packing materials and immediately notify the carrier and the relevant local Yokogawa Sales office. Make sure the Model Code and Serial Number on the cable are the same as on the packing list.

#### 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 are 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 cable.
- 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 cable is been exposed.

### 2 GENERAL SPECIFICATIONS

#### 2.1 Description

Two twisted pair cables with overall shield, depending on the model: -oneside sensor connector with wire pin finishing for terminal connection. -oneside sensor connector with straight connector (extension). The cable is recognized by U<sub>1</sub> (fileno. E124763) and CSA (fileno. LL105324).

#### 2.2 Cable materials

Twisted pair cables:

Tinned copper wire, AGW24 (7/0.2 mm)

Outside shield:

Foil shield with drain wire, 125% coverage.

Braid, tinned copper with 95% coverage.

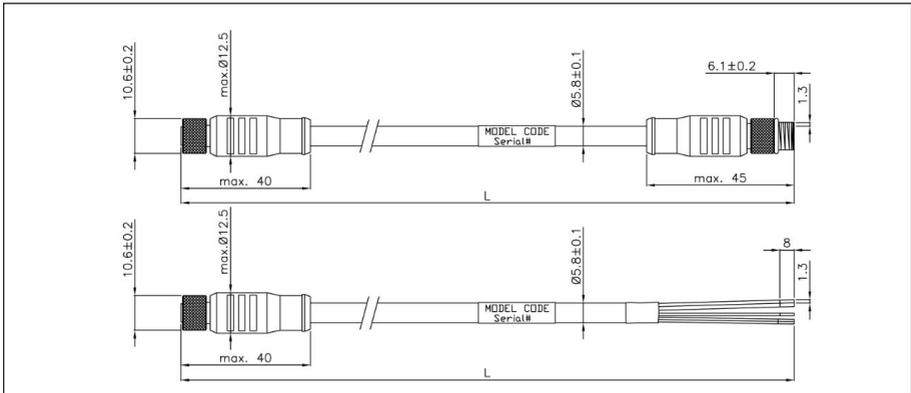
Insulator:

Polyethylene for the twisted pair cables.

Color twisted pair #1: green / yellow.

Color twisted pair #2: brown / white.

Polyvinylchloride for the outside jacket, solid extrusion, color black.



**Figure 1.** Dimensions

### 2.3 Connector materials

Housing	: Polybutylene terephthalate UL94V-0, color: black.
O-ring	: Nitrilbutadienrubber, color: black.
Nut	: Brass.
Contact finishing	: Gold plated.
Outer sleeve finishing	: Polyvinylchloride

### 2.6 Dimensional drawing for suffix-V

Length (L)	: 2, 3, 5, 10, 20, 30m (6.6, 9.8, 16.4, 32.8, 65.6, 98.4 ft)
Dia. connector (D)	: $10.6 \pm 0.2$ mm ( $0.417 \pm 0.008$ inch)
Dia. cable (d)	: $5.8 \pm 0.1$ mm ( $0.228 \pm 0.004$ inch)
Wire pins	: 8 x 1.3 mm ( $0.31 \times 0.05$ inch)

### 2.4 Electrical specifications

Twisted pair cables	: Capacity < 50 pF/m Resistance < 100 $\Omega$ /km Characteristic Impedance < 120 $\Omega$
Connector	: Maximum rated current 5 A Maximum voltage 125 V

### 2.7 Dimensional drawing for suffix-S

Length (L)	: 1, 2, 3, 5, 10, 20, 30, 100m (3.3, 6.6, 9.8, 16.4, 32.8, 65.6, 98.4 328 ft)
Dia. connector (D)	: $12.5 \pm 0.2$ mm ( $0.471 \pm 0.008$ inch)
Dia. cable (d)	: $5.8 \pm 0.1$ mm ( $0.228 \pm 0.004$ inch)
Wire pins	: 8 x 1.3 mm ( $0.31 \times 0.05$ inch)

### 2.5 Operational specifications

Temperature	: -20 ~ +85 °C (-4 ~ +185 °F)
Water Proof (CN)	: IP67 (conform IEC60529)

### 2.8 Cable installation

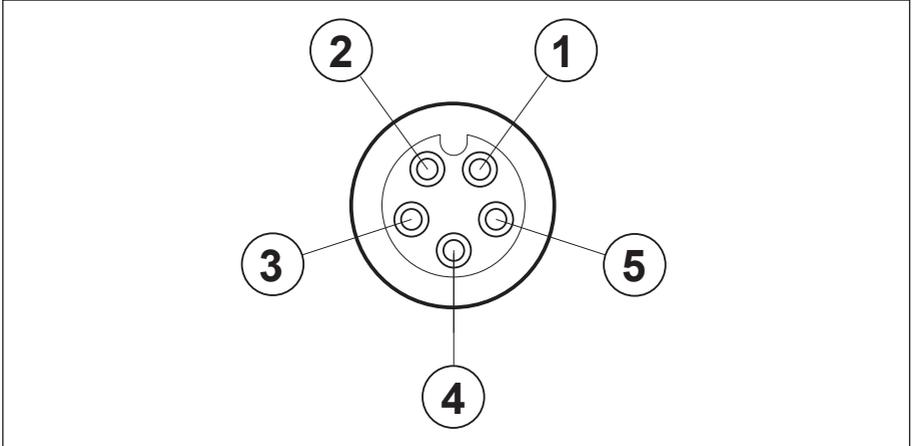
Procuring a smooth bend radius allows the cable to absorb the impact of bending and thereby increasing its life cycle.

Minimum bend radius is approx. 5 cm (2").

When using cable ties, do not pinch or deform the cable.

When connected cable is subjected to any motion between two points, stress on the cable can be prevented by an adequate cable length or using a cable loop.

### 3 WIRING



**Figure 2.** Front view female connector

#### 3.1 Definition connector pin to cable

Pin #	Twisted pair #	Wire color	Wire number
1	1	yellow	83
2	1	green	84
3	2	brown	87
4	drain	black	82
5	2	white	86

#### 3.2 Connection cable to FLXA analyzer

Signal Description	Wire color	Wire number	FLXA terminal
Supply +	brown	87	87
Supply Gnd	white	86	86
Data +	green	84	84
Data -	yellow	83	83
Shield	black	82	82

### 4 MODEL AND SUFFIX CODES

Model Code	Suffix Code	Description
WU11		SENCOM cable
Conn. type	-M9	M9 female conn. for sensor connection
Cable length	-01 -02 -03 -05 -10 -20 -30 -CC	1 meter (only available with WP finishing with suffix -S) 2 meter (only available with CN finishing) 3 meter (only available with WP finishing) 5 meter 10 meter 20 meter 30 meter 100 meter* (only available with suffix -S)
Finishing	-WP -CN	Wire pin for terminal connection Straight connector M9 male
Jacket material	-V -S	PVC only for FU20F, FU24F and SC25F PVC, shielded connector(s) for SENCOM SA11, BA11

\* Non-stock item, therefore long lead time.

**Note:**       **Suffix -V is for FU20F, FU24F, SC25F and IB100**  
**Suffix -S is for SENCOM SA11, BA11 and IB100**

## Instruction Manual

SC24V, SC25V, SC25F, SM60, SR20,  
FC20, BA10, BA11, IB100, SA11,  
WE10, WF10, WU10, WU11, WU40  
SC41, SC42, SC4A, SX41, SX42  
ISC40

Protection of Environment (Use in China)

This manual is valid only in China.  
中華人民共和國国内でのみ有効です。



这个标志是基于SJ/T11364，在中国（不包括台湾，香港，澳门）販售的电子电器产品所适用的环境保护期限，6种有害物质的含有量都低于GB/T26572所规定的限量要求以下。

## Production date

关于生产日期

生产日期在产品铭牌上9位数的序列号中，用以下形式表示生产日期。

从左数第3位数：生产年份

R:2015, S:2016, T:2017, U:2018, V:2019, W:2020, X:2021, Y:2022, Z:2023,

1:2024, 2:2025, 3:2026, ...

从左数第4位数：生产月份

1: 1月, 2: 2月, 3: 3月, ..., 9: 9月, A: 10月, B: 11月, C: 12月

(示例) N3S700001: 2016年7月

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