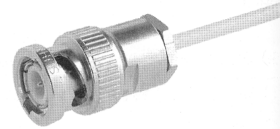
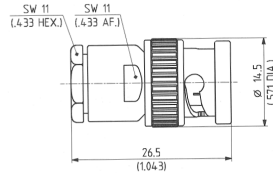


8.7 BNC connector 95299, Suhner 24BNC-50-2-13/133NE

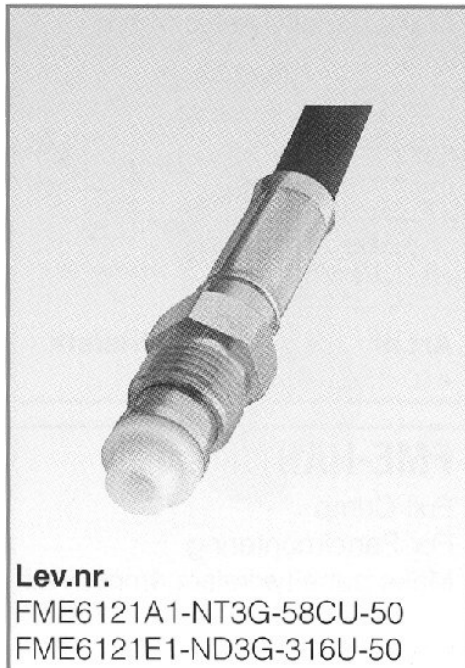
- > for flexible cables
- > cable entry clamp
- > centre contact soldered



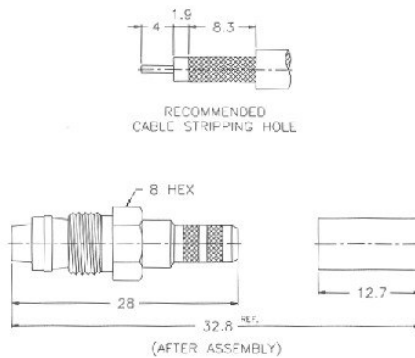
SUHNER TYPE	Article No.	Cable Group (example)	Packaging	Assembly Instruction	Notes
11 BNC-50-1-1 / 133 NE	22540021	U1 (RG 178 B/U)	single	3005	
11 BNC-50-2-1 / 133 NE	22540029	U2 (RG 316/U)	single	3005	
11 BNC-50-3-1 / 133 NE	☒ 22540045	U7,10 (RG 58C/U)	single	3004	
11 BNC-50-3-5 / 133 NE	22540054	U7,10 (RG 58C/U)	single	3005	

☒ centre contact NOT captivated

8.8 FME Connector Female 80588, Holund 40100



FME Female Crimp

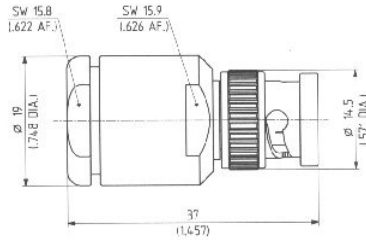


Lev.nr.
 FME6121A1-NT3G-58CU-50
 FME6121E1-ND3G-316U-50

Art.nr. For kabel Pris/stk.
 410-000 RG58 C/U
 410-002 RG174 A/U

8.9 BNC Connector Male 80577, Suhner 11BNC-50-2 / 133NE

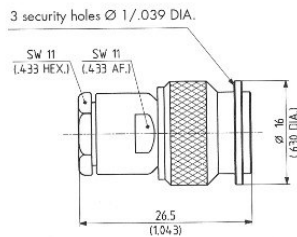
- > for flexible cables
- > cable entry clamp
- > centre contact soldered



SUHNER TYPE	Article No.	Cable Group (example)	Packaging	Assembly Instruction	Notes
11 BNC-50-7-1 / 133 NE	22540145	U28 (RG 213/U)	single	3008	
11 BNC-50-7-2 / 133 NE	22540149	U33 (RG 214/U)	single	3008	

8.10 TNC Connector Male 80578 Suhner 11TNC-3-6 / 133NE

- > for flexible cables
- > cable entry clamp
- > centre contact soldered



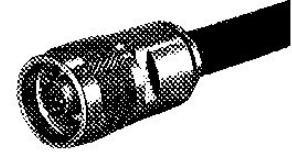
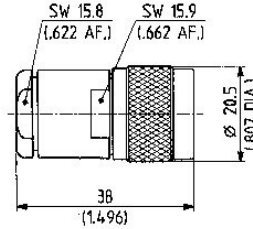
SUHNER TYPE	Article No.	Cable Group (example)	Packaging	Assembly Instruction	Notes
11 TNC-50-2-1 / 133 NE	22640783	U2 (RG 316/U)	single	3005	
11 TNC-50-3-5 / 133 NE	22640798	U7,10 (RG 58C/U)	single	3005	
11 TNC-50-3-6 / 133 NE	22543475	U7,10 (RG 58C/U)	single	3004	

centre contact NOT captivated



8.11N Connector Male 80581, Suhner 11N-50-7-5 / 133NE

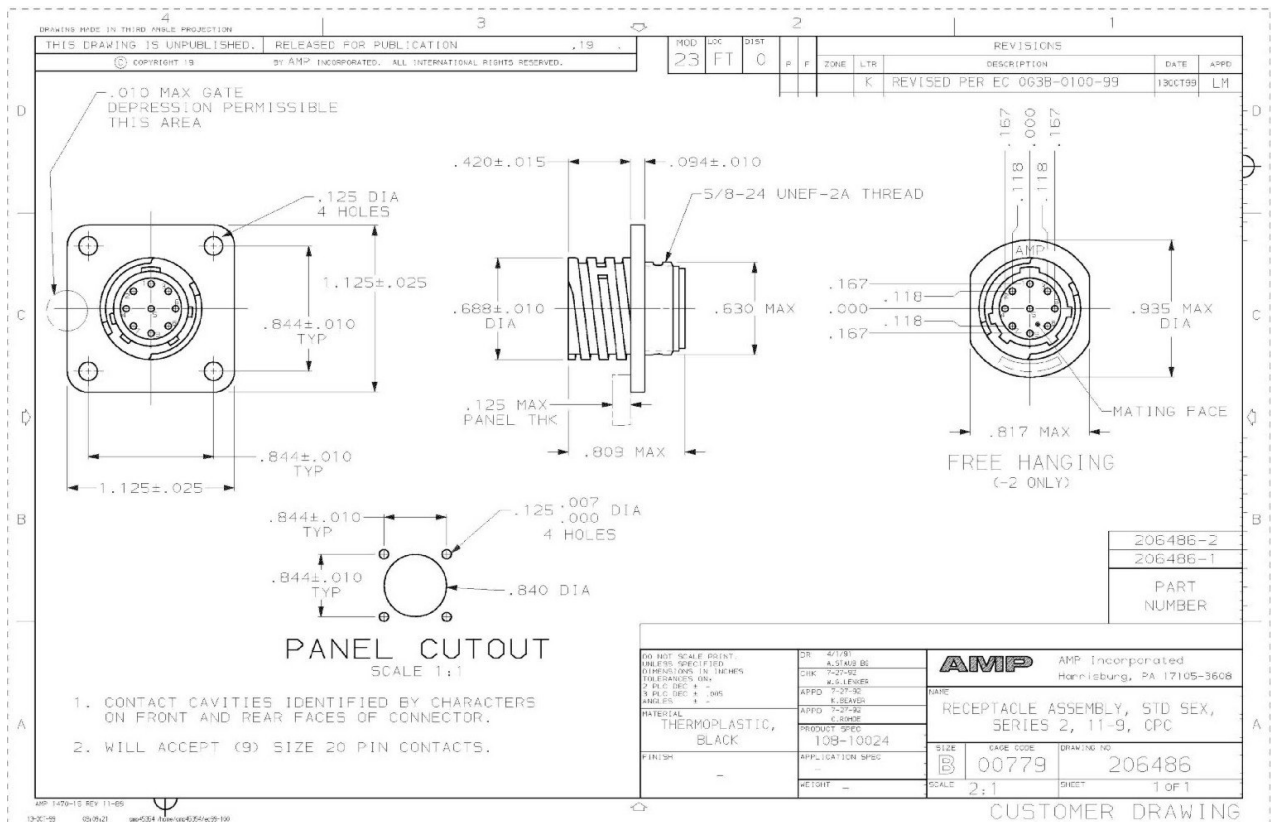
- > for flexible cables
- > cable entry clamp
- > centre contact soldered



SUHNER TYPE	Article No	Cable Group (example)	Packaging	Assembly Instruction	Weight
11 N-50-7-5 / 133 NE	22542117	U33,28 [RG 214/U]	single	3007	51.0 g / 1.79 oz.
11 N-50-7-6 / 133 NE	22542120	U33,28 [RG 214/U]	single	3008	51.0 g / 1.79 oz.

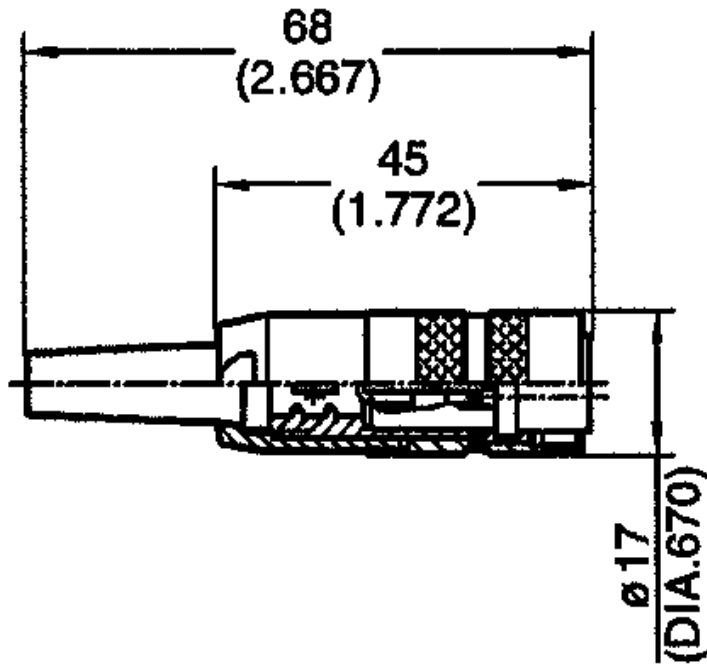
BB centre contact NOT captivated

8.12 Pilot plug Connector 80511, AMP 206486-1 and -2





8.13 24VDC Power Connector 81509, AMP C091AT3261001





9 GLOSSARY

AIS -Automatic Identification System.

A shipboard broadcast transponder system in which ships continually transmit their ID, position, course, speed and other data to other nearby ships and shoreline authorities on a common VHF radio channel.

ALARM

Message by which the navigator signals the occurrence of an event. The alarm is indicated by an audible tone and/or a message (or icon) on the display.

ALTITUDE

The height of the antenna over mean sea level.

AMBIENT

Surrounding or encompassing environment.

ANTENNA HEIGHT

The height (over the waterline) in which the antenna is installed.

AUX

Auxiliary Port -A communication port on the AIS transponder, which can be used for NMEA or RTCM, input.

BAUD

Transmission rate unit of measurement for binary coded data (bit per second).

BIT

Short form of Binary Digit. The smallest element of data in a binary-coded value.

bps

Bits Per Second.

CHARACTER STRING

Continuous characters (other than spaces) in a message.

CHECKSUM

The value sent with a binary-coded message to be checked at the receiving end to verify the integrity of the message.

CLICK (KEYBOARD)

The audible tone generated when a key is activated

CLOCK

A precisely-spaced, stable train of pulses generated within an electronic system to synchronize the timing of digital operations within the system.

CLOCK OFFSET

The differences between the times at the CDU/processor tracking a satellite, the satellite itself, and GPS system time.



COG

See COURSE OVER GROUND

COURSE OVER GROUND

Course made good relative to the sea bed.

CURSOR

A flashing rectangle superimposed on a character position in the display window, indicating that a character may be entered in that position, or that the existing character may be changed via the keyboard.

DEFAULT

A condition that the navigator assumes automatically if no other condition is initiated by the operator.

DGPS

See DIFFERENTIAL GPS.

DIFFERENTIAL GPS (OOPS)

A method of refining GPS position solution accuracy by modifying the locally computed position solution with correction signals from an external reference GPS CDU (monitor).

ECDIS

Electronic Chart Display and Information System

ETA

Estimated Time of Arrival. Calculated on basis of the distance to the destination and the current (or estimated) speed.

FATDMA

Fixed Access Time Division Multiple Access -Data link access protocol used by base station transponders to allocate transmission slots on the data link. These slots are fixed and will thus not change until the base station transponder is re-configured.

FM

Frequency Modulation -The method by which a signal offsets the frequency in order to modulate it on a data link. position (latitude, longitude, altitude, and time). See DILUTION OF PRECISION.

GFSK

Gaussian-Filtered-Shift-Keying -A standardised method of modulating digital data prior to transmission on a data link.

GMSK

Gaussian-Minimum-Shift-Keying -GFSK using BT -products and modulation index, which optimises the modulated signal.

GNSS

Global Navigation Satellite System -A common label for satellite navigation systems (such as GPS and GLONASS).

GLOBAL POSITIONING SYSTEM (GPS)



The NAVSTAR Global Positioning System, which consists of orbiting satellites, a network of ground control stations, and user positioning and navigation equipment. The system has 24 satellites plus 3 active spare satellites in six orbital planes about 20,200 kilometres above the earth.

GLONASS

A satellite navigation system developed and operated by Russia.

GMT

Greenwich Mean Time. See also UNIVERSAL TIME COORDINATED.

GPS SYSTEM TIME

Time corrected to Universal Time Coordinated (UTC) and used as the time standard by the user segment of the GPS system.

HEADING

The direction in which the vessel is pointed, expressed as angular distance from north clockwise through 360 degrees. HEADING should not be confused with COURSE. The HEADING is constantly changing as the vessel yaws back and forth across the course due to the effects of sea, wind, and steering error.

IEC

International Electro-technical Commission.

IEC 61162-1 Maritime navigation and radiocommunication equipment and systems – Digital interfaces Single Talker- Multiple listeners: Closely related to NMEA0183 version 2.3, communication at 4800 baud. Definition of both electrical and protocol to be used.

IEC 61162-2 Maritime navigation and radiocommunication equipment and systems – Digital interfaces Single Talker- Multiple listeners, High speed transmission: Closely related to NMEA0183HS version 2.3, communication at 34800 baud. Definition of both electrical and protocol to be used.

IEC 61993-2 Maritime navigation and radiocommunication equipment and systems – Automatic Information Systems (AIS)
Definitions of the sentences used for AIS in addition to those mentioned in IEC 61162-1 and IEC 61162-2.

IMO

International Maritime Organisation

INTERFACE

Electronic circuits that permit the passage of data between different types of devices; For example, the speed and heading interface circuit permits data from a speed log and compass to pass to the navigator processor.

ITDMA

Incremental Time Division Multiple Access -Access protocol for pre-announced transmissions of temporary or non-repeatable character. It is also used during data link network entry.

ITU

International Telecommunication Union.

I.ED

Light Emitting Diode.



NMEA

National Marine Electronics Association. The NMEA electronics interface specifications have been developed under the auspices of the Association. The NMEA 0183 is an internationally recognized specification for interfacing marine electronics. NMEA 0183 version 2.3 is identical to IEC 61162-1.

POLLED MODE

A transponder is in a polled mode during a request-response session only. Distinguish this from a station, which is polled into certain slots. This station is first polled and then enters assigned mode.

POSITION UPDATE

The redefining of position by analysis of satellite orbital data as referenced to time.

PROCESSOR

The processor circuit card in the console that controls system operations and computes the positioning/navigation solutions.

PROMPT

A message on the display instructing the operator to make a keyboard entry.

PULSE SPEED SENSOR

Speed log whose speed output signal is defined by a pulse mte output.

RATDMA

Random Access Time Division Multiple Access -Access protocol for transmissions which have not been pre-announced. This is used for the first transmission during data link network entry or for messages of non-repeatable character.

REFERENCE COMPASS

The compass against which the steering compass (see STEERING COMPASS) may be calibrated.

REFERENCE ELLIPSOID

A mathematical description of the Earth's ellipsoidal shape (see ELLIPSOID), which is the reference frame for positioning computation.

RESET

To return stored values to either the default value or zero in memory.

RMS

See ROOT MEAN SQUARED.

ROOT MEAN SQUARED (RMS)

A statistical measure of probability, stating that an expected event will happen 68% of the time. In terms of position update accuracy, 68 position updates out of 100 will be accurate to within specified system accuracy.

SENSOR

A device that detects a change in a physical stimulus and turns it into a signal that can be measured.

SET AND DRIFT

The direction and the speed of the water over ground (current).



SIGNAL- TO-NOISE RATIO (SIN)

Quantitative relationship between the useful and non-useful part of the received satellite signal. A high SIN indicates a good receiving condition.

S/N

See SIGNAL- TO-NOISE RATIO

SOFTWARE

Values programmed and preloaded into memory. The values represent a permanent set of instructions for running the automatic functions (computations) of the navigator.

SOG

See SPEED OVER GROUND

SOTMA

Self Organised Time Division Multiple Access -An access protocol, which allows autonomous operation on a data link while automatically resolving transmission conflicts.

SPEED OVER GROUND

Speed in relation to the seabed.

TDMA

Time Division Multiple Access. An access scheme for multiple access to the same data link.

UNIVERSAL TIME COORDINATED (UTC)

Greenwich mean time corrected for polar motion of the Earth and seasonal variation in the Earth's rotation.

UPDATE

See POSITION UPDATE.

UTC

See UNIVERSAL TIME COORDINATED.

VDL

VHF Data Link.

VHF

Very High Frequency -A set of frequencies in the MHz region.

VSWR

Voltage standing wave ratio

VTS

Vessel Traffic Server



10 Tron UAIS Installation form

10.1 Tron UAIS Class 'A' Installation

Tron UAIS Class 'A' Installation (Tick appropriately)					
Ship's Power Supply & Location		12VDC	24VDC		
24VDC Power Cable run to transponder =	mtrs	110VAC	220VAC	50Hz	60Hz
Optional AC to DC Converter Required					
Optional DC to DC Converter Required					
Tron UAIS Transponder Location					
Cable run to junction box =	mtrs				
GNSS Antenna Location		NOTE: See page 3, Table 5 Position Sensor(s), Antenna Location			
Cable run to Transponder =	mtrs				
VHF Antenna Location					
Cable run to Transponder =	mtrs				
Pilot Plug Location		NOTE: Power for Computer should be available nearby			
Cable run to junction box =	mtrs				
Ship's Ground Connection Location					
Cable run to junction box =	mtrs				
Ship's Alarm Location					
Cable run to junction box =	mtrs				
Comments:					



10.2 Heading Sensor, source

Heading Sensor, source	
Manufacturer	
Model	
Type	GyroCompass GNSS Compass Fluxgate Compass
Output NMEA Message <i>IEC 61162-1 RS422</i>	Required:- HDT ROT * Optional:- OSD
Other output format, specify	
If no NMEA	Synchro Reference Voltage = Phase Voltage = Frequency = Stepper - Positive Step Negative Step Step Voltage = Ratio - 90:1 180:1 360:1
Location	
Type and make of gyro converter	
Cable run to junction box	mtrs
Comments:	

*If req. according to Solas ch. V.



10.3 Speed Sensor, source

Speed Sensor, source			
Manufacturer			
Model			
Type	Doppler Speed log	GNSS	
Output NMEA Message <i>IEC 61162-1 RS422</i>	Required:-	VBW	
	Optional:-	VTG	OSD RMC
Location			
Cable run to junction box	mtrs		
Comments:			

10.4 ARPA / ATA RADAR(s)

ARPA / ATA RADAR(s) <i>(if interfaced)</i>		
Manufacturer		
Model		
Type		
In/Output NMEA Message <i>IEC 61162-1 RS422</i>		
Location		
Cable run to junction box	mtrs	
Comments:		



10.5 Position Sensor, source

Position Sensor, source			
Manufacturer			
Model			
Type	GPS	GLONASS	Differential
Output NMEA Message <i>IEC 61162-1 RS422</i>	Required:- DTM - GNS - GLL - RMC - GBS Optional:- GGA		
Other output format, specify			
Display Location			
Cable run to junction box	mtrs		
²Antenna Location	External Position Source,	Tron UAIS Internal Position	Max. Dimensions
	GNSS Antenna	Source GNSS Antenna	
A=Distance to Bow	mtrs	mtrs	511 mtrs
B=Distance to Stern	mtrs	mtrs	511 mtrs
C=Distance to Port Side	mtrs	mtrs	63mtrs
D=Distance to Starboard	mtrs	mtrs	63mtrs
Comments:			



10.6 Registration form

This page has been returned to JOTRON

Cut here and return this page to JOTRON

Tron UAIS Installation form

Vessel Data			
Vessel name		IMO Number	
Flag State		MMSI Number	
Owner / Company		Radio Call Sign	
On-Board Contact Name		Telephone Number(s)	Office:
			GSM:
Superintendents Name		Telephone Number(s)	Office:
			GSM:
Type of Vessel		Gross Registered Tonnage	Tonnes
L.O.A.	mtrs	Beam	mtrs
Comments:			

Tron UAIS, serial number:	
Junction box, serial number:	

All necessary information is logged in section 10.1 to 10.5
Installation completed and successfully commissioned by:

Technician, (type name)		
Service provider / company		
Place	Date	Signature

Please fill in with capital letters

This form must be returned to Jotron Electronics AS, Fax.: + 47 33 12 67 80
(attention service department) in order to have a valid 18 months product warranty.