W3 POLE INSTALLATION MANUAL V1.0 ➤

wassp® MULTIBEAM
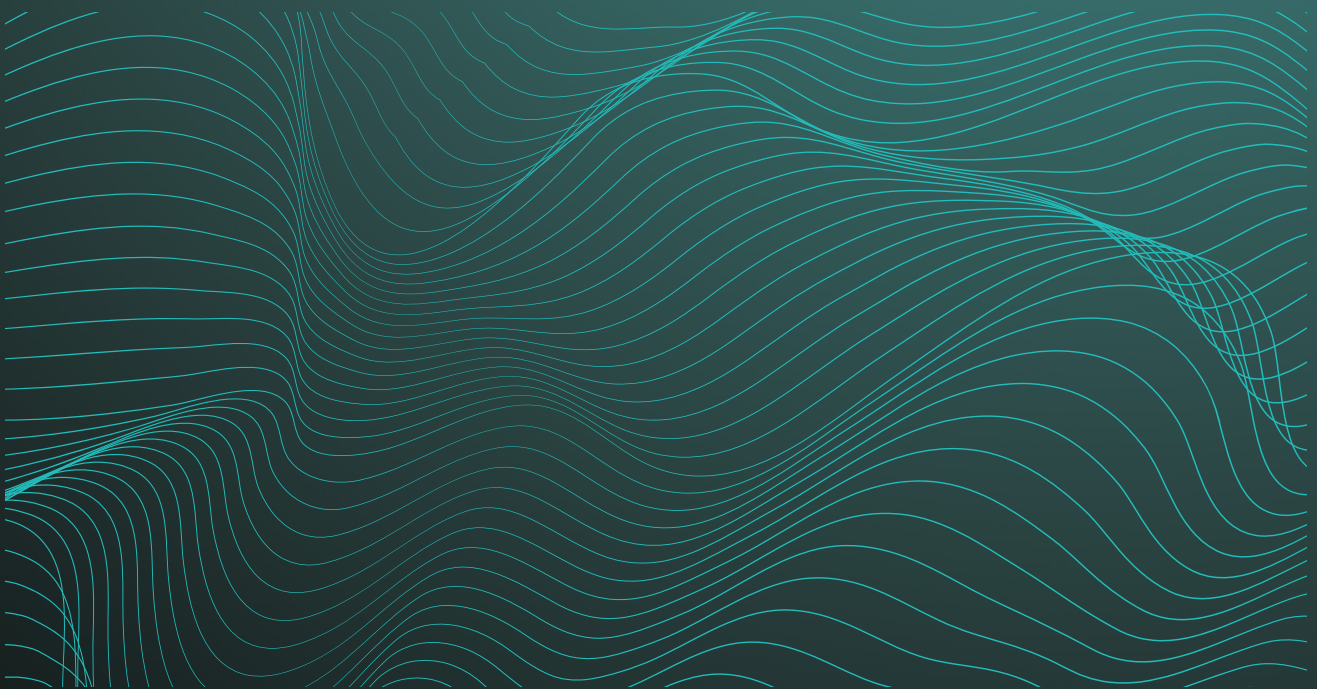
SEE IT ALL

WASSP W3P INSTALLATION MANUAL

The WASSP W3P is an integrated wireless unit for real-time tender mapping within a portable bracket mounted unit.

The integrated solution, provides transducer, processor, transmitter, position sensors, wifi and bracket mounted pole in a fully contained and eye catching product.

With a simple bracket mounted attachment, the W3P only requires a power connection and external PC/Tablet to allow real-time 3D bathymetry mapping of the sea floor from a vessel which can optionally be transmitted back in real-time to a mothership at distances up to 2 Nm.

DOCUMENT REVISION HISTORY

REVISION DATE	REASON FOR CHANGE	VERSION
October 2021	Product Release	1.0

RELATED DOCUMENTS

» WASSP DRX Installation Manual – For the latest version of this manual go to wassp.com

» WASSP Transducer Installation Manual – Installation manual for specific transducers supported by DRX.

» WASSP CDX Operators Manual – User manual for the WASSP CDX application for control, visualisation and data post processing of DRX data.

» 3rd Party Application Manuals – 3rd Party Applications that interface with DRX

» Sensor Installation and Operation Manuals – Sensors supported by DRX.

» WASSP DRX ICD – Interface documentation for DRX and associated DRX SDK/API documentation.

» Sensor Box Installation Manual - Installation Manual for the WASSP Sensor package

Further documentation and updated specifications and DRX installation manual can be found at wassp.com

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General Notices

WASSP Ltd. reserves the right to change the contents of this manual and any system specifications without notice.

Contact WASSP Ltd. regarding copying or reproducing this manual.

Support information

If you require maintenance or repair, contact your local dealer. You can also contact WASSP Ltd. using the following address: wassp.com/support/.

If you need information about WASSP products, visit wassp.com.

On the website you will also find a list of WASSP dealers and distributors.

Warnings, Cautions, and Notes

Warnings, cautions, and notes are indicated by the following icons throughout this manual:

CAUTION indicates that if the instruction is not heeded, the action may result in equipment damage or software corruption.

NOTE indicates a TIP or additional information that could be helpful while performing a procedure.

CONTENTS

1 INTRODUCTION

The WASSP W3P is a 'All in one' portable multibeam mapping solution that includes all the components to make a complete the WASSP Multibeam Sounder System (sans PC). Conveniently housed in one pole mounted system – this includes DRX processor, Wi-Fi units (for local and remote access) IMU motion sensor and Satellite compass.

The supplied bracket allows for transom or duck board mounting, and can easily be set to various angles and heights to accommodate different transoms and installation requirements.

The WASSP W3P system can be configured to operate in various modes, typically using a wide-angle sonar transducer to profile the water column and seafloor in high resolution.

The WASSP W3P can be configured to be suitable for operations such as Exploration, survey and mapping, search and rescue and many more.

Actual data types output to client applications, such as WASSP CDX, will be determined by:

» Data types enabled in DRX, as determined by the licensing model
» Data types the client application supports and queries for
» If the client application is using raw, processed or post processed data
» Data types that are supported will increase through continual product development and DRX upgrades

The WASSP W3P functionality is defined by the software installed, the data types enabled.

1.1. MAIN FEATURES

The main features of WASSP in a multibeam configuration will depend on the model as follows:

» 120° Swath coverage
» Up to 2Nm realtime mapping (coverage dependent)
» Designed for (max 15knots) high speed quick deployment mapping
» Store and forward mapping technology for out of range data gathering
» Rugged all in one pole mount design
» 12/24VDC operation
» Control via CDX SW on remote on board PC or Windows tablet
» Depth capability is configuration and environment dependent. Typical numbers are DRX-32 with WASSP Wideband Fairing Transducer; 1 to 400m
» WMB Fairing Transducer 90-190 khz operation
» WSP IMU038 0.2° pitch/roll accuracy static, .25°dynamic, 5cm or 5% heave
» WSP V200 Sat Compass 0.75° heading accuracy
» Internal 5ghz Wi-Fi router

2 SYSTEM CONFIGURATION

NOTE: ALL EQUIPMENT CASES TO BE EARTHED

NOTE: ALL CABLES TO BE SCREENED
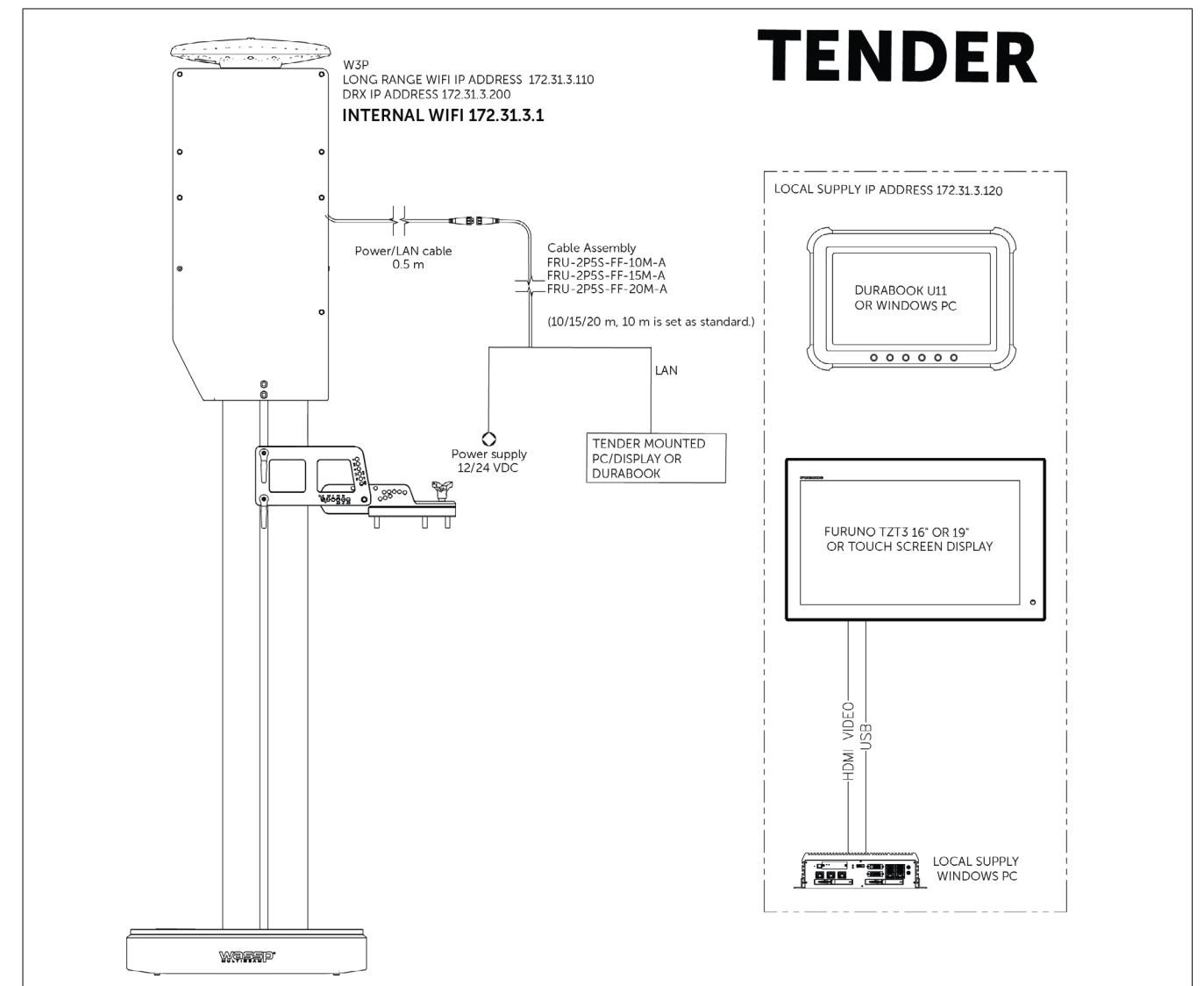
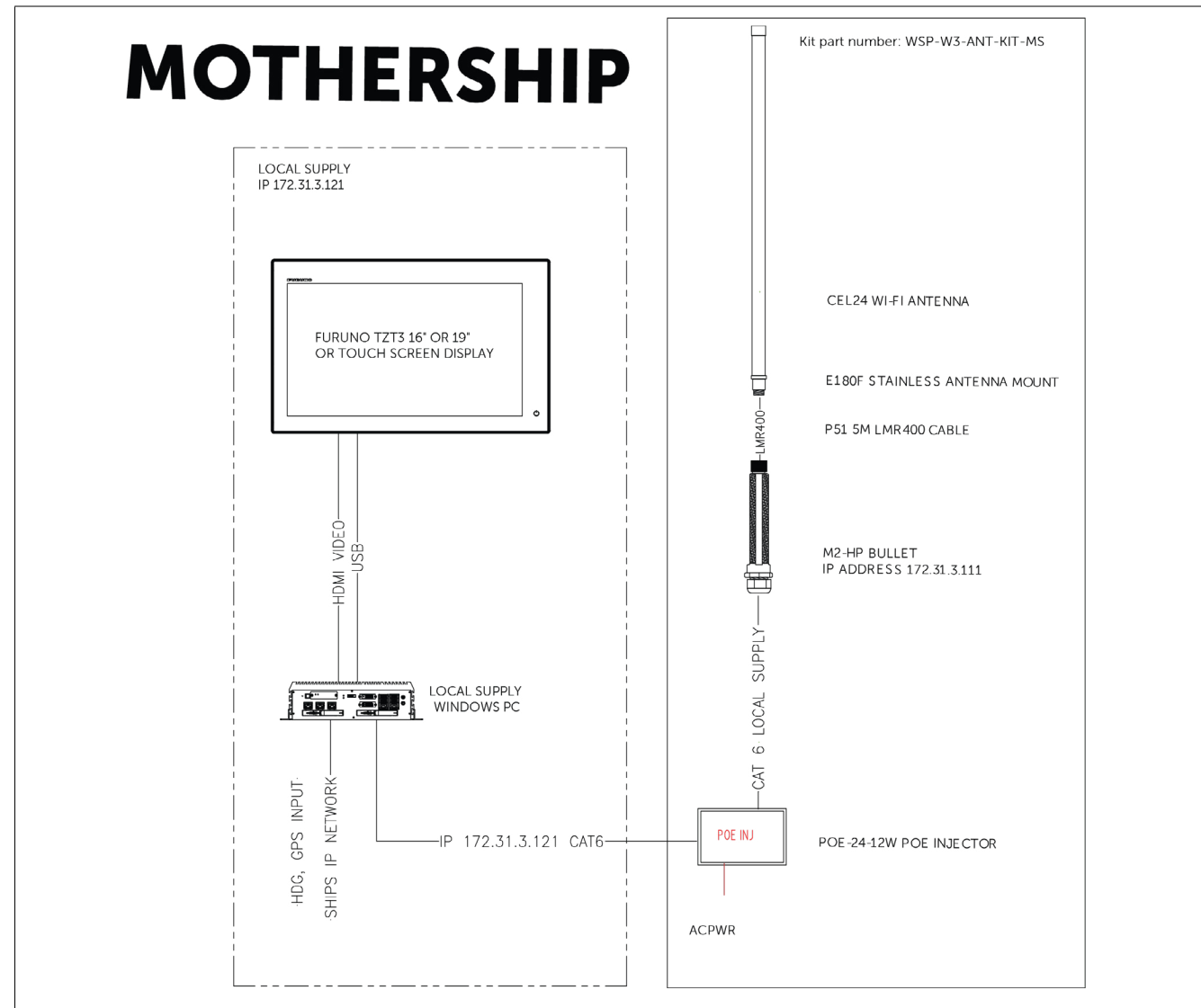## 2.1. TENDER

Figure 1.   System Configuration Tender

Page 6 of 40   wassp.com   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   wassp.com   Page 7 of 40

2.2. MOTHERSHIP

MOTHERSHIP

Kit part number: WSP-W3-ANT-KIT-MS

LOCAL SUPPLY
IP 172.31.3.121

FURUNO TZT3 16" OR 19"
OR TOUCH SCREEN DISPLAY

CEL24 WI-FI ANTENNA

E180F STAINLESS ANTENNA MOUNT

P51 5M LMR400 CABLE

HDMI VIDEO
USB
LMR400

M2-HP BULLET
IP ADDRESS 172.31.3.111

LOCAL SUPPLY
WINDOWS PC

CAT 6 LOCAL SUPPLY

HDG, GPS INPUT
SHIPS IP NETWORK

IP 172.31.3.121 CAT6

POE INJ

POE-24-12W POE INJECTOR

ACPWR

Figure 2. System Configuration Mothership

3 PART LIST

3.1. STANDARD SUPPLY

WASSP P/N	Qty	Name	Type	Remarks
WFT1320W3P90-190-2.5	1	WASSP W3 POLE	W3P	
WSP-400-952	1	BRACKET	ASSEMBLED W3P BRACKET	
WSP-400-912	6	HANDLES	CLAMP LEVERS FOR DECK AND POLE MOUNT	
WSP-400-901	1	DECK PLATE	DECK/TRANSOM MOUNT PLATE	
WSP-400-904	2	T SLOT ADAPTER	STAINLESS T SLOT FOR BRACKET TO POLE MOUNT	
WSP-400-951	1	BREAKAWAY PIN	SHEER PIN FOR BRACKET	CONSUMABLE ITEM
001-512-600-00	1	POWER CABLE	COMBINED POWER / ETHERNET CABLE 10M	
WSP-002-216		CDX license	WASSP CDX License	Required for operation choose one
WSP-002-210 WASSP		License Module	Time Zero Interface	Required for operation choose one'

3.2. MOTHERSHIP WIFI EQUIPMENT WSP-W3-ANT-KIT-MS

WASSP P/N	Qty	Name	Type	Remarks
M2 HP	1	WiFI Bullet	802.11b/g/n 600mW Outdoor AP/Bridge	
CEL24	1	Wifi Antenna	Omnidirectional Antenna c/w N240F N-female Connector (2310-2485 MHz)	
E180F	1	ANTENNA MOUNT	Stainless Steel Deck Mount Flange - 1 1/4" - 11 TPI	
P51	1	ANTENNA CABLE	N-Male to N-Female 500cm LLC400 Pig-tail	
POE-24-12W	1	MOTHERSHIP AC POE INJECTOR	POE-24-12W 0.5A airGateway Compatible POE	

3.3. OPTIONAL SUPPLY

WASSP P/N	Qty	Name	Type	Remarks
001-512-620-00		POWER CABLE	COMBINED POWER/ ETHERNET CABLE 15M	
001-512-640-00		POWER CABLE	COMBINED POWER/ ETHERNET CABLE 20M	

3.4. OPTIONAL LICENSES

| WASSP P/N	Qty	Name	Type	Remarks
WSP-002-210		TZ License	TimeZero Pro Inter-face	
WSP-002-200		Backscatter License	Backscatter License	
WSP-002-201		Water Column target License	Fish targets dis-played on tender only	
WSP-002-202		Side Scan License	Side Scan License for tender only	
WSP-002-300		XYZ Data Format export	Datamanager XYZ export license	
WSP-002-301		GSF Data Format export	Datamanager GSF export license	Please note Survey license WSP-002-209 must be used in conjunction
WSP-002-209		Survey License	Survey functionality, Provides connection to 3rd party clients like Hypack, Eiva, & QPS that require uncorrected data Included in S3.	

4 INSTALLATION

4.1. INSTALLATION CONSIDERATIONS

4.1.1. Connect to a Distribution Switchboard

» The W3P has a power switch, and should be connected to a fused power switch board of either 12/24v DC

4.1.2. Location

» Install the pole in a vertical position, with power cable in the forward orientation.
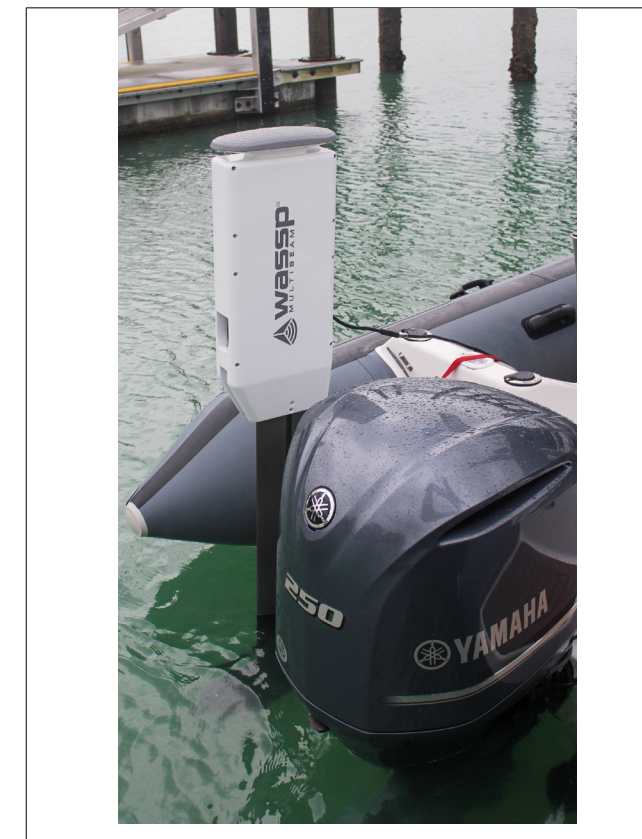
» Install the W3P in a position on the transom the vessel, the pole can be mounted on to a suitably strong swim platform (or duckboard) the mount can accommodate fore/aft angles of up to 15° by selecting a location for the shear pin.
Alternatively, the bracket can be rotated to be and mounted against the transom of the vessel again the bracket can accommodate angles up to 15° for aft.
The mount should be strong enough to not cause the pole to wobble while underway, or cause damage to the vessel under normal operation, or while kicking up on the event of striking an object

» The unit should be mounted were the transducer can be lowered into a clean flow of water away from electrically noisy systems, or items on the vessel that create turbulent water (i.e water inlets/outlets, engine intakes or exhausts

» The unit should not interfere or come in contact with the vessels drive units (i.e outboards or sterndrives) and should not be subjected to thrust or forces from the drive unit (i.e a jet drive)

» Install the pole where the GPS satellite compass on top of the unit has an

unobstructed view of the sky, and is away from VHF transmitters and RADAR systems that may cause interference

» Install the system where the long range Wi-Fi antenna (mounted inside the case under the satellite compass at the rear of the unit) is not blocked by metallic object that could interrupt transmission

» Ensure that the pole can be raised and lowered.

👍 NOTE: The W3P pole is designed with a shear pin that will break if excessive force is applied to the pole – this is to try to protect the pole in case it strikes an object. The pole will rotate forward in this instance and it should be in a position that it will not cause harm to anyone on board.

👍 NOTE: Maximum Speed warning: the unit is designed to be used at a speed up to 15knots in calm seas, operating at speeds above this could cause damage or death to persons on board the vessel, damage to the unit, or damage to the vessel.

4.2. INSTALLATION OF THE W3P MOUNTING BRACKET

Determine the suitability of the mounting location BEFORE permanently mounting the sensor.

4.2.1. Installation on a Swim Platform (deck mount)

Mount the deck mount plate WSP-400-901 so the bracket can easily be slid on or off the transom of the vessel. Use 4 x M10 socket capscrews with suitable washer and nyloc nut, ensure all surfaces are covered in a corrosion inhibitor such a tef-gel to prevent to metal to metal corrosion.

The bracket of the W3P can be bolted down to the plate using the supplied Clamp levers (M8 x 1.25 thread) ensure threads are covered in a corrosion inhibitor such as tef-gel, and that excessive torque is not applied to the clamp levers. This could damage the threads in the aluminium mount.
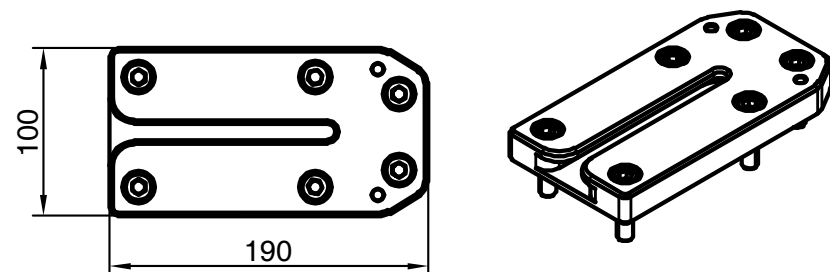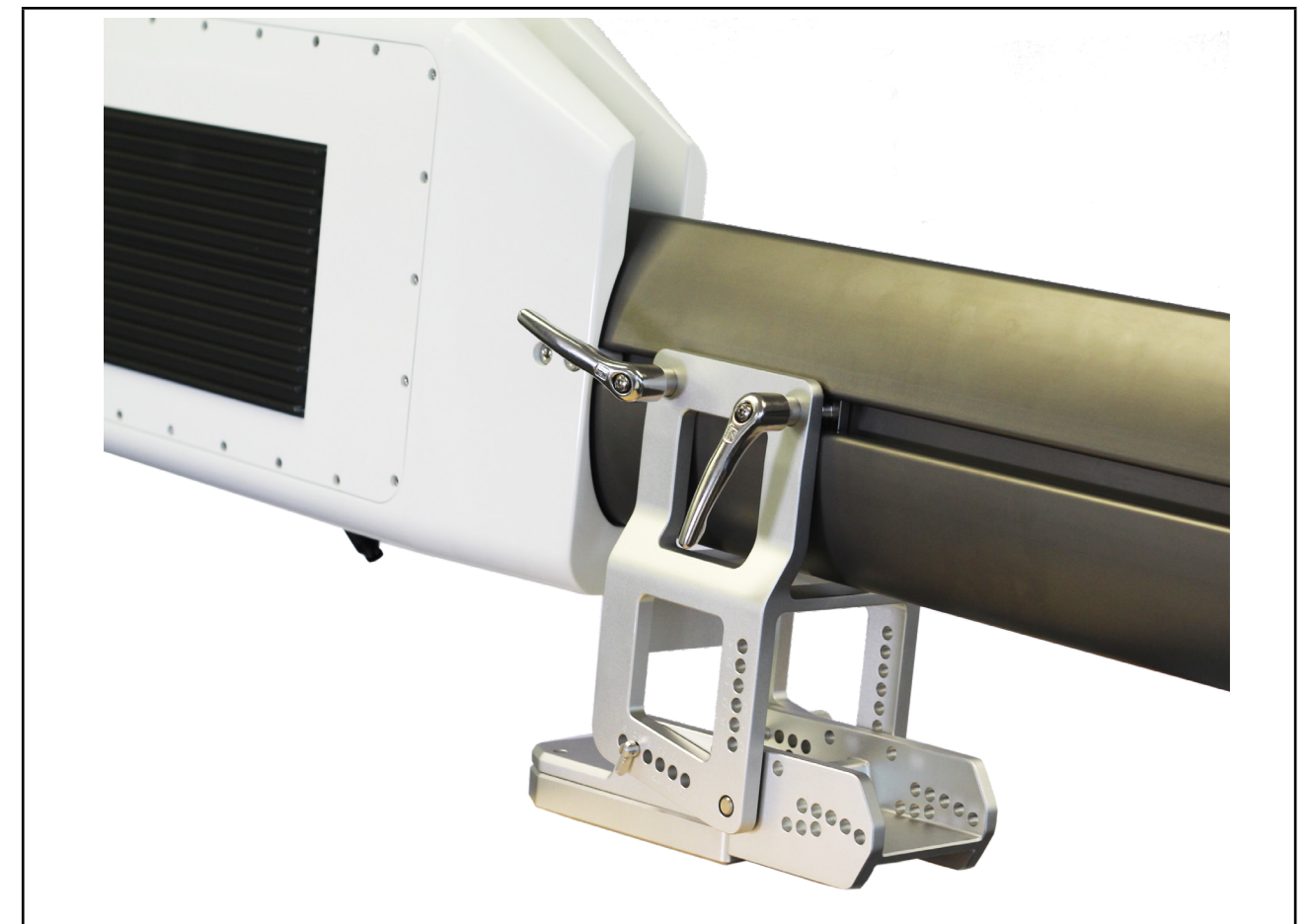

Figure 3.   Mount on transom

Figure 4.   W3 unit on mount, on transom

4.2.2. Installation Directly to a Transom

» Mount the deck mount plate WSP-400-901 so the opening on the bracket is facing up.

» Ensure the pole easily be slid on or off the transom of the vessel.

» Use 4 x M10 socket capscrews with suitable washer and nyloc nut, ensure all surfaces are covered in a corrosion inhibitor such a tef-gel to prevent to metal to metal corrosion.

» The bracket of the W3P can be bolted down to the plate using the supplied Clamp levers (M8 x 1.25 thread), alternatively locally sourced bolts may be used.

» Ensure threads are covered in a corrosion inhibitor such as tef-gel, and that excessive torque is not applied to the clamp levers/bolts. This could damage the threads in the aluminium mount.

1. Use the supplied plate as a template to the mounting location, then drill four fixing holes in the mounting location.

   NOTE: The holes must be parallel with the fore and aft line.

2. Put the plate on the platform and ensure that is lined up parallel with the ship's bow.

3. Use customer furnished bolts, flat washers, spring washer to secure the plate to the platform/transom. The torque for the bolts is 19.6 to 24.5 N*m

4. Use the bracket shear pin inserted into a suitable hole so that the transducer is mounted level on the transom when at rest.
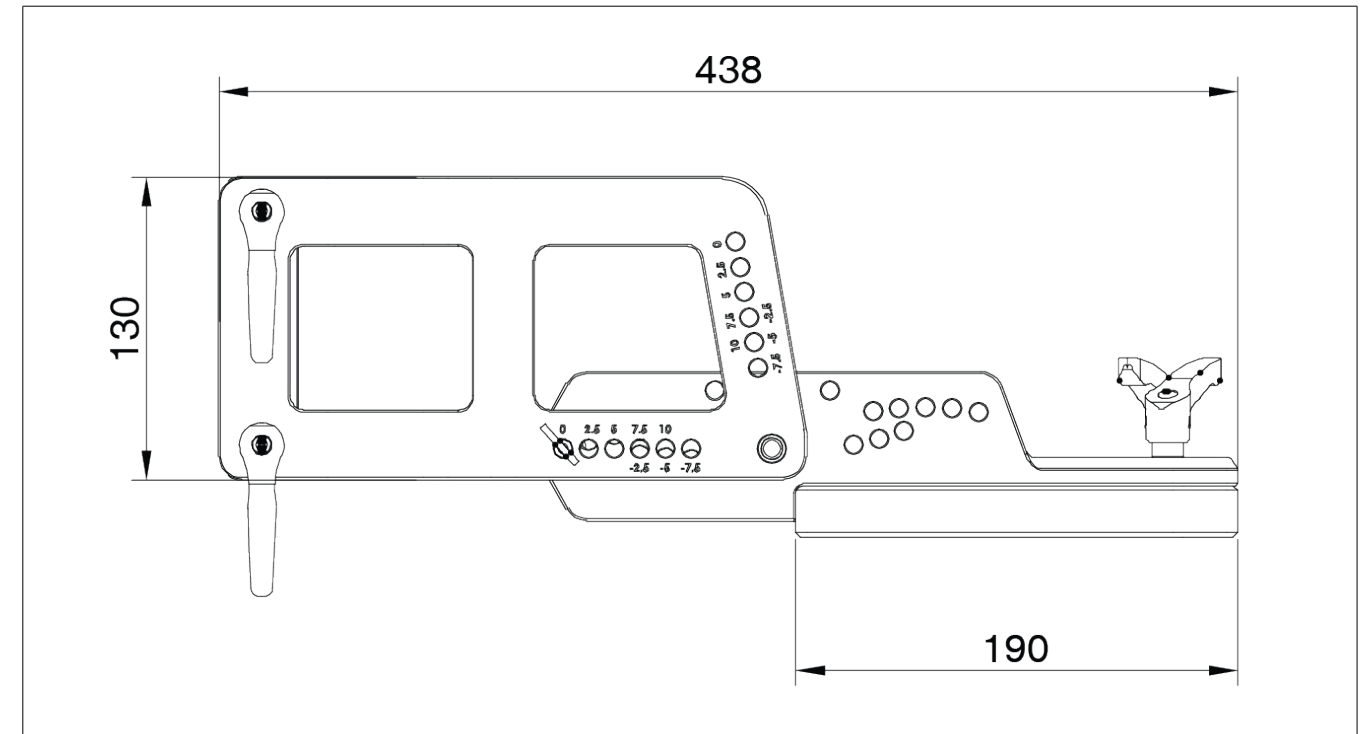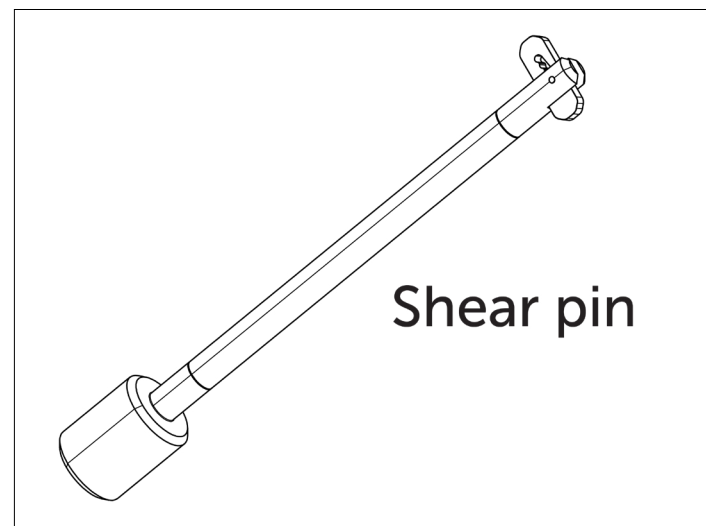

Shear pin

Figure 5.   Bracket showing set angles

5. Connect the power/LAN cable to the cable assembly.

   Follow these guidelines for laying the power/LAN cable:

   • The connectors must not strike any part of the vessel due to wind, etc.

   • Do not apply any load to the connectors

   • The cable must be located where no tension is applied to the connectors. To prevent tension, create a loop in the cable close to the sensor and tie the loop with cable ties
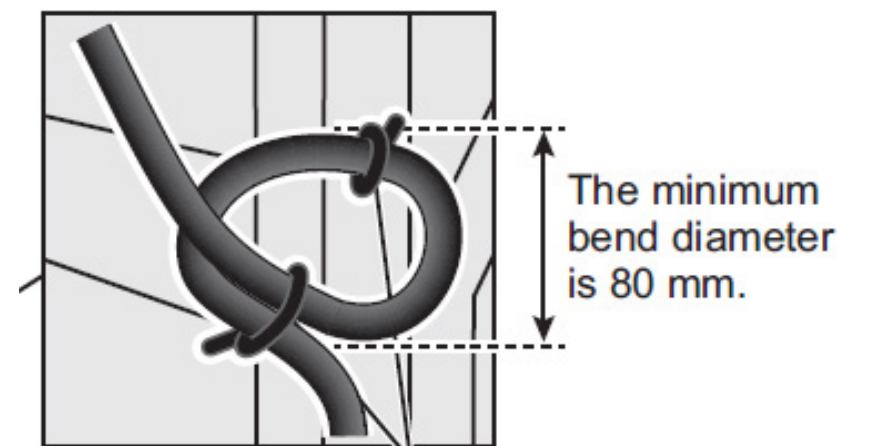

The minimum bend diameter is 80 mm.

Figure 6.   Loop cable and tie loop with cable ties.

   • Ensure that either end of the cable when disconnected cannot be dropped into water. Cover connector when disconnected and not in use to ensure that water cannot ingress and cause corrosion.

6. Connect the cable assembly to the power source and display unit. *See "5 Wiring" on page 16.*

5 WIRING

5.1. TENDER / W3P POLE SIDE

5.1.1. Power Requirement

The W3P requires either 12 VDC or 24 VDC power.

» Connect the red cable to the positive terminal of ship's battery
» Connect the blue cable to the negative terminal
» The black cable is a shielding cable for grounding

5.1.2. Network Cable Connection

Connect the network cable to the ships furnished windows PC or ships network. *See "Figure 1. System Configuration Tender" on page 7* and *"6.3. Connecting to the W3P via fixed ethernet Cable"* on page 20.

If using the internal Wifi directly to the pole (i.e using a Durabook to wirelessly connect to the pole), please ensure the cable is sealed with self amalgamating rubber tape, and insulation tape and left in a dry location. *See "6.4. Connecting to the W3P via Built in Wifi Router" on page 21* for connection information.

👍 NOTE: For best performance we recommend using the network cable to communicate with the DRX.

5.1.3. PC

Connect PC as per manufactures instructions and Install the WASSP CDX SW (refer CDX user Manual).

5.2. WIRING MOTHERSHIP SIDE

5.2.1. Power Requirement

The Wireless antenna bullet is designed to powered by the supplied AC powered POE injector, however it can be powered by a DC powered version or suitable POE network switch (local supply).

5.2.2. Antenna Mounting

Mount the antenna base with a clear view forward of the vessel, the higher the antenna the greater the range of the antenna, however if it is too high, the tender may not be able to connect to the mothership when the are along side. Consideration of high powered transmitters that may interfere with the wireless access point (other Wifi, VHF, SSB, RADARS and VSAT/SATCOMMS) should be taken into account, mount the unit away from sources of interference – consult your dealer for more information.

5.2.3. Antenna Cabling

See "Figure 2. System Configuration Mothership" on page 8.

» Screw the supplied 5m coaxial cable to the N type fitting on the bottom of the CEL24 antenna, and pass the cable through antenna mount.
» Using the overlocking nut (N239F) and O ring Secure the antenna onto the E180F base.

👍 NOTE: Wifi performance will be degraded by a long antenna run or poor cable connection, where possible keep the antenna cable as short as possible and extend the Ethernet cable to the Wifi bullet.

5.2.4. Bullet Mounting

1. Mount the M2 Bullet HP in a cool dry location. Screw the other end of the coaxial cable to the Ntype connector.

2. Connect the Cat6 cable (user supplied) into the bottom of the Bullet unit.

3. Connect the Cat6 connected to the bullet to the POE labelled output on the POE injector. Connect the AC power cable to the POE injector and connect to a local AC power supply. Connect the second CAT6 cable directly to the ethernet port for the mothership PC .

4. Set the IP address of the Mothership PC to 172.31.3.121 Subnet 255.255.0.0

5. Install the CDX software as per the CDX user manual.

6 INITIAL SETUP - CONNECTING TO SYSTEM

6.1. CHECK POINTS AFTER INSTALLATION

Before using the product, carry out the following:

» Mechanical checks
» Turning the power on and initial setup

6.1.1. Mechanical Checks

Check below points before switching on the W3P.

» All washers are in place and bolts are fully fastened.
» All connections are secure and network cable is connected to the multi function display
» All connecting cables and wires are secured. *See "5 Wiring" on page 16.*

6.1.2. Turning the Power on and Initial Setup

Use the information in this manual and the manual for CDX software to power the sensor and to proceed with initial setup.

» Briefly press the power button on the W3P, all the LEDS will initially turn on.
» To turn OFF the W3P, press and hold the power key for more than 4 seconds. All LEDs will turn off, indicating that power has been turned off

6.2. LED STATUS

The DRX features 4 LEDS next to the power button which give a quick indication of the status of the DRX system.

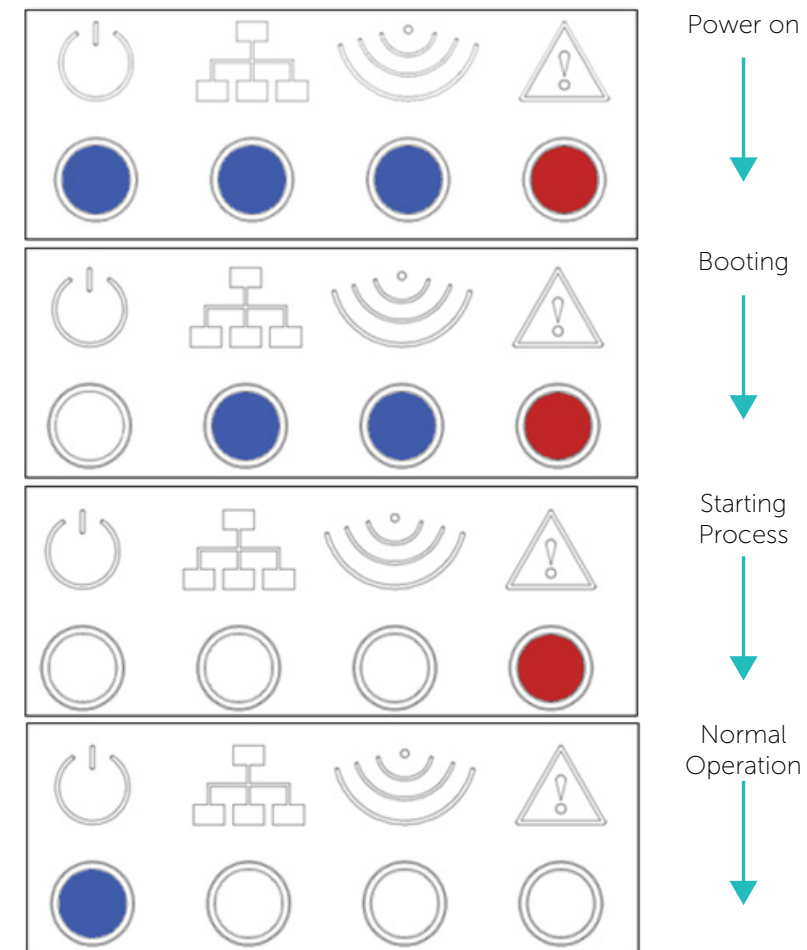### 6.2.1. Startup sequence

The boot sequence is as below:

Figure 7.   Startup Sequence

Page 18 of 40   wassp.com   *Doc: W3 Pole Installation Manual*
Version: 1.0 October 2021   *Doc: W3 Pole Installation Manual*
Version: 1.0 October 2021   wassp.com   Page 19 of 40

6.2.2. Normal Operation LED Indications

Power LED:

Off = Power OFF

On Solid = DRXApp is running

Network LED:

Off: No Link (cable not connected)

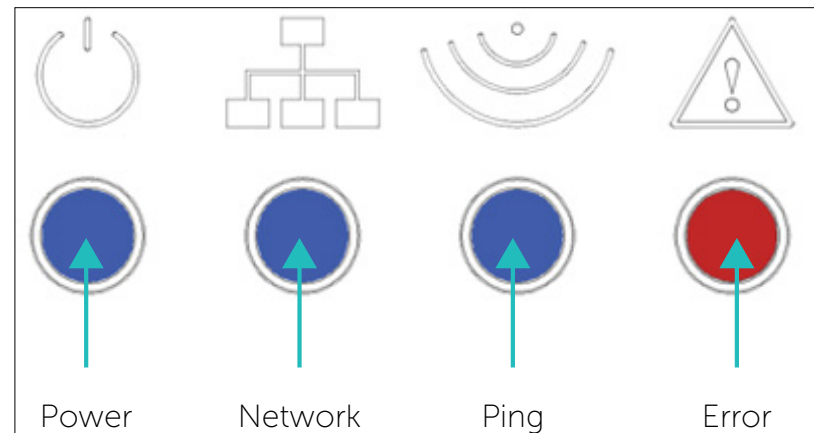Solid: Link/Link Established

Blinking: Tx or RX traffic

Figure 8.   Normal Operation LED Indications

Ping LED:

Off: Not pinging

Blinking: Pinging with frequency relative to ping rate (not actual ping rate).

Error LED:

Off: Normal operation

On: (While booting) system is booting

On: (After booting) Indicates an error state. All LED states should be noted and reported to WASSP Support. See *"11 Appendix: Product Registration, Support and Resources" on page 39.*

6.3. CONNECTING TO THE W3P VIA FIXED ETHERNET CABLE

Power on the Windows PC or Tablet used on the tender to connect to the W3P pole.

1. Plug in the Rj45 connector to the PC connection.

2. Set the fixed IP address of the LAN port used to talk to the W3P to a Class B IP address – Suggested address is 172.31.3.120 subnet 255.255.0.0

3. Open the **Find My DRX program** (refer CDX operation manual)

4. If connected correctly and powered on the unit will be found as per the screenshot.

5. Click on the text to open the DRX configuration page

6.4. CONNECTING TO THE W3P VIA BUILT IN WIFI ROUTER

1. Scan on the available wireless networks for WASSP_LOCAL

👍 NOTE: This is preset to USA frequencies on the 5ghz band.

2. The Password is WASSP123 (case sensitive).

3. Open the **Find My DRX program** (refer CDX operation manual).

4. If connected correctly and powered on the unit will be found as per the screenshot.

👍 NOTE: The Built in router will provide an IP address in the correct range, however we recommend to FIX the IP address to 172.31.3.199 subnet 255.255.0.0

6.5. NETWORKING OVERVIEW

| Code	Name	Type	IP/subnet	Remarks
RUTX10	WASSP_LOCAL	5ghz Inbuilt to W3P	172.31.3.1 255.255.0.0	WASSP_Local password: WASSP123 System Username:admin Password:Wassp123
Bullet M2	WASSP_TENDER	2.4ghz long range inbuilt into W3P	172.31.3.110 255.255.0.0	WPA PSK : WASSP123 System Username:ubnt Password:WASSP123
Bullet M2	MOTHERSHIP	2.4ghz long range unit – installed on mothership	172.31.3.111 255.255.0.0	WPA PSK : WASSP123 System Username:ubnt Password:WASSP123
	DRX1	Wassp DRX	172.31.3.120 /255.255.0.0	
User Furnished	Tender PC	PC mounted on tender	172.31.3.122 255.255.0.0	Either connected via ethernet power cable to pole, uses own router or via Wifi inbuilt into W3P
User Furnished	Mothership PC	PC mounted on Mothership	172.31.3.121 255.255.0.0	Either connected directly to bullet M2 On Mothership

7 INITIAL SETUP - OPERATION

7.1.   INITIAL SETUP W3P

Turn on the PC display device, and do the initial setup for the DRX (*see "6 Initial setup - Connecting To System" on page 18*).
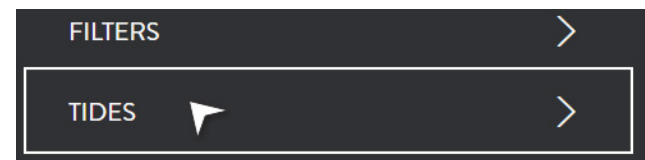
7.1.1. Offsets

The unit is factory calibrated to work right out of the box, however you will need to add the draft offset (depth of the transducer) for correct mapping.
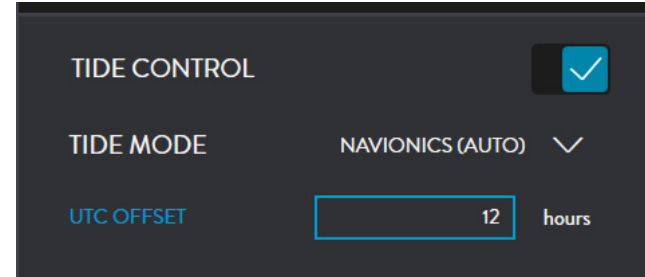
1. From the HOME bar, under CONFIGURATION select DRX PROCESSING.
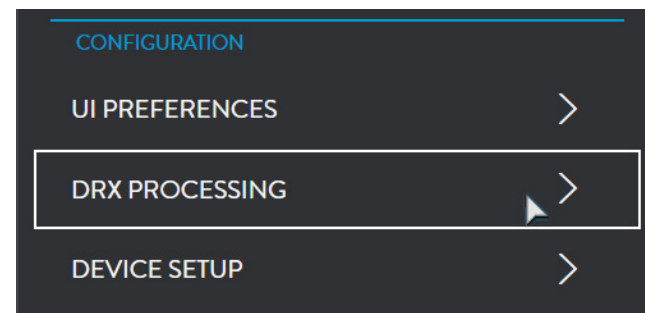
2. Select TIDES.

3. Select TIDE CONTROL on, TIDE MODE to NAVIONICS AUTO and set the local UTC OFFSET time.

7.1.2. Tide Offset

The Tide Offset is used in conjunction with the local tide offset to display the depth corrected to chart datum.

Incorrect tide/draft offsets will result in incorrect depths being recorded and poor mapping results.

It is necessary to select your current UTC offset (+/-14 hours) and to select the database to use for tide corrections. In either case using the Harmonic (built in) tides or Navionics Tides (from installed chart) you have the option of automatic tide station selection, or manually select the tide station. In auto mode the system will select the closest tide station, but this may not necessarily be the correct tide station to use i.e if the tide station is on another coast/inlet.

Tidal height offset can be configured to be applied as a depth correction in the DRX. This will depend on the tide option set in the TIDES menu.

1. From the HOME bar, under CONFIGURATION select DRX PROCESSING.
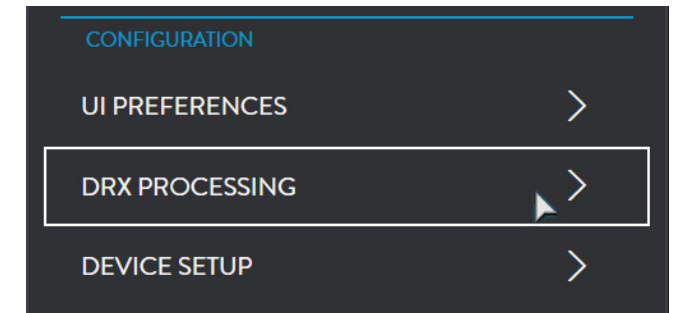
2. Select TIDES.
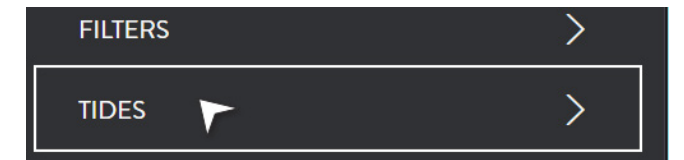
NOTE: NAVIONICS (AUTO), HARMONIC (AUTO) and MANUAL (STATION) require appropriate cartography containing tidal station information. Use a Navionics SD card to use these modes.
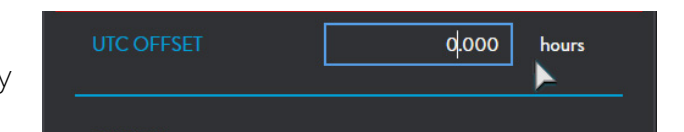
When TIDE CONTROL is disabled DRX tidal data is not updated by CDX. On initially setting TIDE CONTROL to OFF the DRX tide value will be set to zero.

When TIDE CONTROL is enabled CDX will set the DRX tidal level as per the options below.

TIDE MODE will provide you with the following options: DISABLED, MANUAL (OFFSET), RTK, NAVIONICS (AUTO), NAVIONICS (MANUAL), HARMONIC (AUTO) or HARMONIC (MANUAL).
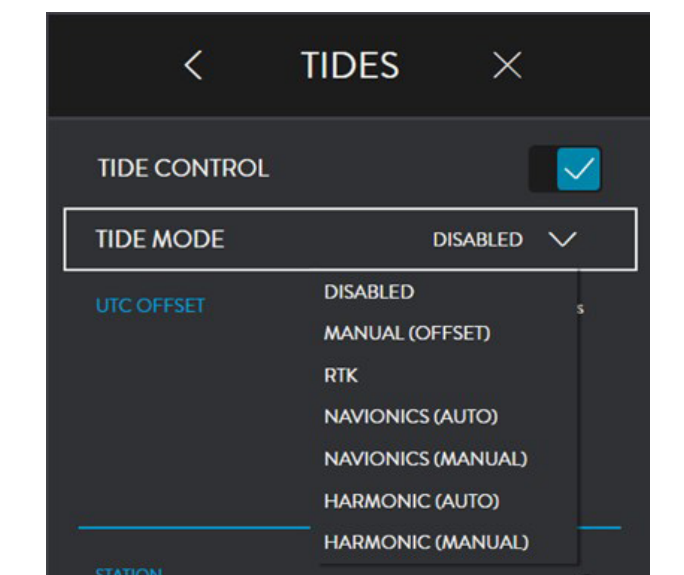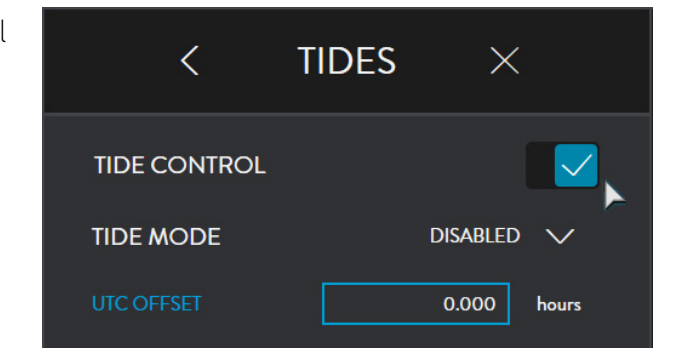
UTC OFFSET is used to correct UTC time to local time. The Offset should include any daylight savings.

Page 22 of 40   wassp.com   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   wassp.com   Page 23 of 40

7.1.2.3. Tide Mode Disabled

No tidal offset will be applied as a correction to seafloor data in the DRX.

7.1.2.4. Tide Mode Manual (Offset)

The manually set tidal offset will be applied to the DRX.

7.1.2.5. Tide Mode RTK

RTK tide calculates the tide based on RTK corrected GPS information. It is in general significantly more accurate than conventional tide predictions, as it is based on a real-time GPS height measurement.

It does require the RTK tide DRX license and an RTK corrected satellite compass via PPP or online RTK subscription.

7.1.2.6. Tide Mode Navionics (Auto) or Harmonic (Auto)

Tidal offset will be selected based on local tide station using time and position data. The value will be applied to the DRX periodically.

UTC OFFSET should entered to apply correct local time for the tide station.

7.1.2.7. Tide Mode Navionics (Manual) or Harmonic (Manual)

Tidal offset will be applied based on a manually selected tide station. The value will be applied to the DRX periodically.

UTC OFFSET should entered to apply correct local time for the tide station.

NOTE: TIDE VALUE will give the tide value currently being applied to the DRX.

NOTE: If UTC OFFSET for local time is incorrect, this will result in incorrect tidal height being calculated.

7.1.3. Transducer Draft offset

Enter the depth of the transducer below the water line to correct the recorded depth of the soundings.

It is recommended that a mark is put on the W3P and ensure that the pole is lowered to the same position each time – if using on a different vessel it may be necessary to change this value.
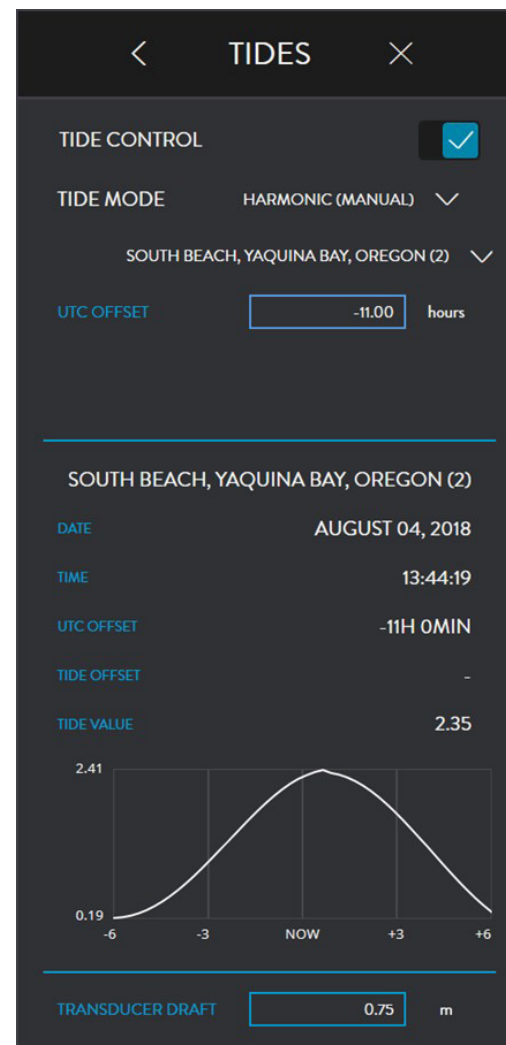
1. From the HOME bar, under CONFIGURATION select DRX PROCESSING.

2. Select TIDES.

3. At the bottom of page enter the TRANSDUCER DRAFT – this is in meters, and the number is a positive value.

In this example the measured draft is 75cm below the waterline:

7.1.4. Sound Velocity

Sound velocity input is required to compensate for range inaccuracies caused by sound speed variations. These changes can occur both seasonally and with geographical areas especially in coastal areas where sound velocity will be impacted by both temperature and water salinity differences.

Sound velocity in water is affected by both temperature and salinity and can either be measured directly or derived from temperature and salinity. This value should be adjusted regularly, depending on the operating environment, as it will have a direct impact on mapping accuracy.

The sound velocity control allows for both direct and derived values. Sound velocity compensation can be calculated using appropriate sound velocity, sound velocity profile or temperature and salinity sensors. The more accurate the sound velocity the more accurate the mapping.

The visual effect of incorrect sound velocity is that a flat seafloor will either curve up or curve down. This representation will indicate soundings that are too shallow or too deep with the affect being accentuated toward the edges of the swath.

Sound velocity measurements can be manually reckoned using the sonar display. For further details, refer to the CDX Operators Manual.

7.1.5. Roll Offset

The W3P is factory calibrated for pitch and roll, and should not require correction, however if correction is required please use the PATCH TEST app included with the CDX SW to recalculate the roll correction.

7.2. DATAMANAGER OVERVIEW

Run DATAMANAGER on the WIRELESS SERVER and it will automatically connect to the DRX. The WIRELESS tab will be available if the Wireless license is installed.

1. Enter the nominated name of the WIRELESS SERVER under VESSEL NAME. This will be used to identify the vessel for all wireless operations and will be the name used to identify the vessel by WIRELESS CLIENT vessels. The name selected here is 'Tender'.

2. WIRELESS VESSEL is typically not used for the WIRELESS SERVER.

3. SCAN and connect to the DRX using the RECORD Tab. For further details, refer to the CDX Operators Manual.
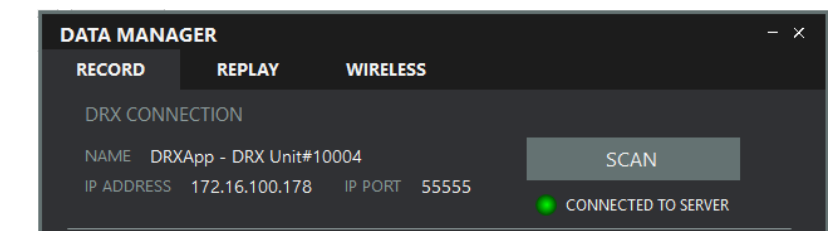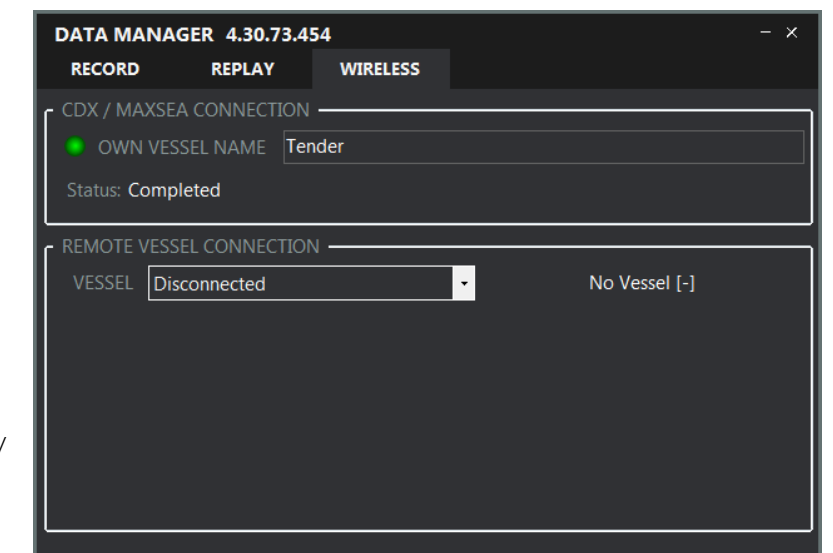
NOTE: WIRELESS does not require pressing the RECORD button, however the DRX should be connected on the RECORD TAB.

7.3. INITIAL SETUP MOTHERSHIP PC

CDX software requires a GPS and Heading input to display the mothership position relative to the Tender and the mapped chart.

Connection will typically be using a serial connection either directly or using a serial to USB adapter connected to the CDX PC.

Once the connection between the sensor and PC is established configure the port(s) under the WIRELESS SERVER section.

CDX supports 2 ports for own vessel data. CDX will automatically connect to the position and heading data from the serial ports and display Own Vessel Position.

Run DATAMANAGER on the WIRELESS CLIENT. The WIRELESS tab will be available if the Wireless license is installed.

1. Enter the nominated name of the WIRELESS CLIENT vessel under VESSEL NAME. This will be used to identify the vessel for wireless operation. The vessel name selected here is 'Mother Ship'.

2. Select the name of the WIRELESS SERVER from the drop-down list under WIRELESS VESSEL. In this case 'Tender' is selected as the active server.
All available WIRELESS SERVERS on the network will be visible and available for selection.

WIRELESS VESSEL STATUS will show as:

» NO VESSEL; No vessel available for connection.
» SEARCHING; Searching for vessel.
» SYNCING; Vessels synchronising connection.
» CONNECTED; Connection established.
» READY TO CONNECT; Connection available but not connected.
» OUT OF RANGE; Connection was established but subsequently lost.

NOTE: The number in brackets is the number of packets received from the wireless vessel.

8 MAINTENANCE & TROUBLESHOOTING

8.1. MAINTENANCE

Regular maintenance is important for good performance. Check the points mentioned below every before use to keep the unit in good working order.

Checkpoint	Action
Fixing bolts	
» Corrosion » If they are tightened	» Replace corroded bolts. » Tighten loosened bolts. » Coat new bolts with marine sealant.
Top Box	
» Cracks » Foreign material	» If a crack is found, repair it with a small amount of sealing compound or adhesive » Remove foreign material with a freshwater-moistened cloth. Do not use commercial cleaners to clean the sensor; they can remove paint and markings or deform the plastic.
Bracket / Mount	
	» Replace corroded bolts. » Tighten loosened bolts. » Coat new bolts with marine sealant. » Check for damage, bending or cracks, replace parts as necessary
Complete Unit	
» Cleaning » Storage	» For long life it is recommended to wash the unit with a low pressure hose and a mild detergent after each use. » Store the unit is clean location in the upright position. Dry unit before storing away » Ensure that any cables left disconnected are covered in a waterproof way to stop corrosion

8.2. REPLACEMENT OF FUSE

The 5A fuse (Type: FRU-2P5S-FU-5A-A, Code No.: 000-168-869-10) in the fuse holder on the cable assembly protects the W3P sensor from overcurrent and equipment fault. If you cannot turn on the power, check the fuse to see if it has blown. If the fuse has blown, find the reason before you replace the fuse. If the fuse blows again after the replacement, contact your dealer for advice.

Power cable and LAN cable
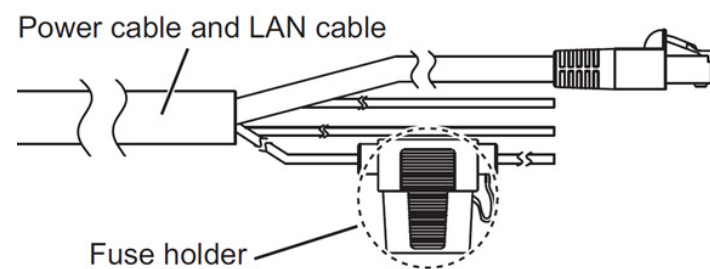
Fuse holder

How to replace the fuse
Open the fuse holder cover and replace the fuse. Then close the cover.

8.3. TROUBLE SHOOTING

The table below provides simple troubleshooting procedures to restore normal operation.

If you cannot restore normal operation, contact your dealer for advice.

Trouble	Remedy
The unit will not power on	» Check Power supply » Check Fuse » Check Connection to W3P to Power cable
I Cannot connect the DRX	» Check IP address of PC » Check W3P is powered on (LED light sequence)
CDX software does not map	» Check mapping is enabled » Check Nav data bar to ensure all data is received (GPS / HDG / itch /Roll / Heave) – all are required to map » Check Datamanager is running
Data is not received on mothership	» Check datamanger is running on both tender and mothership » Check Datamanager on mothership is set to receive data from the selected tender
Tender and Mothership are not connected	» Check mothership IP address » Ping tender bullet – open command prompt on windows PC and type "ping 172.31.3.110" – if data is being received check windows firewall/antivirus is turned off » Check POE injector » Check Wireless connection is made via webpage HTTPS://172.31.3.111 » Check W3P is powered on » Check Tender PC is powered on

Page 30 of 40   wassp.com   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   wassp.com   Page 31 of 40

9 NMEA SUPPORTED SENTENCES

NMEA 0183 and serial sentences supported:

NMEA / Serial Sentence	Description
GGA	GPS Position Fix and related data
GLL	Position, Latitude/Longitude
GNS	GNSS position fix data and related data
PTNL GGK	Trimble Geographic Position
RMC	Navigation Information; Position, Track Made Good and Speed Over Ground
ZDA	Time and date
HDG	Magnetic Heading
HDT	True Heading
HDM	Heading Magnetic
PFEC ATT	True heading (Furuno proprietary sentence), optionally pitch and roll
PFEC HVE	Heave (Furuno proprietary sentence)
TSS1	Roll, pitch, heave
PASHR	Roll, pitch, heave, heading
VTG	Track Made Good and Ground Speed
MTW	Water Temperature

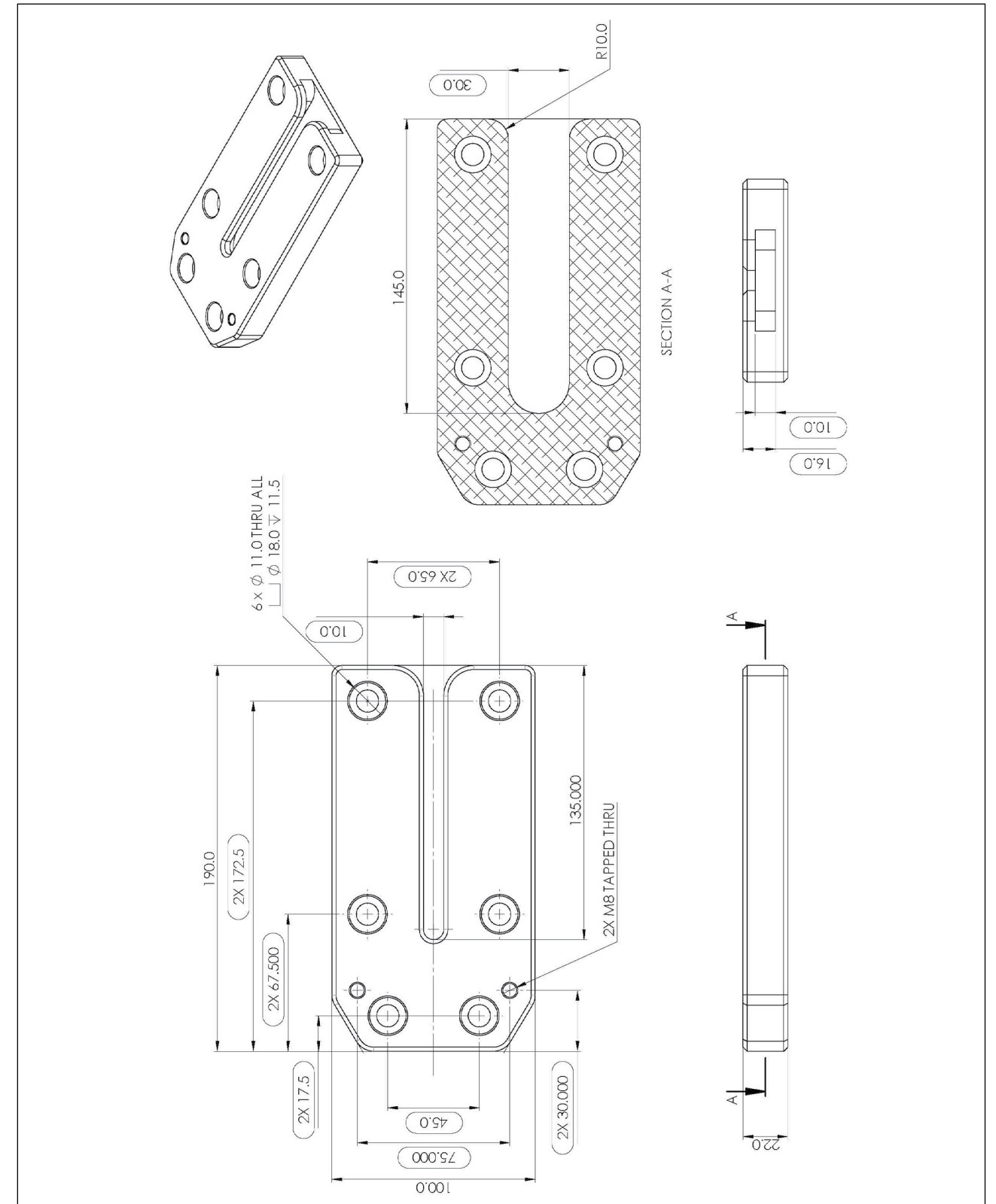# 10 SPECIFICATIONS OF W3P

TRANSCEIVER TYPE	INTEGRATED DRX-32
CURRENT TRANSDUCER SUPPORT	WIDEBAND FAIRING TRANSDUCER
MINIMUM DEPTH/M	1M
TYPICAL DEPTH 1/M (90° OR 2:1)	300M
MAX DEPTH 2/M (53° OR 1:1)	350M
SOUNDER DEPTH 3/M (NADIR)	400M
SWATHE COVERAGE (UP TO)	120°
DETECTION POINTS	224 (0.54° OVER 120°)
SIGNAL TYPE	FM/CW
DEFAULT CENTRE FREQUENCY	160KHZ
CENTRE FREQUENCY RANGE	120-160Khz
MAXIMUM CHIRP FREQUENCY RANGE	+/-30KHZ
FREQUENCY FROM	90-190KHZ
BANDWIDTH (UP TO)	60KHZ
RANGE RESOLUTION (MAX)	2CM
BEAM WIDTH PORT/STARBOARD	4.5° (3.6° @200KHZ)
BEAM WIDTH FORE/AFT	3.2° (2.6° @200KHZ)
SOUNDER BEAMS	CONFIGURABLE 5-60°
DC INPUT	9-32V
WIRELESS ANTENNA KIT	INTEGRATED
POWER CONSUMPTION (MAX)	60w
DATA CONNECTION	GBE
OPERATING TEMPERATURE	0° TO 50°
ENVIRONMENTAL STANDARDS	IEC60945, MIL-STD-901
MAX OPERATION SPEED	15 KNOTS

For Packing list

Page 32 of 40   wassp.com   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   wassp.com   Page 33 of 40

10.1. OUTLINE DRAWINGS
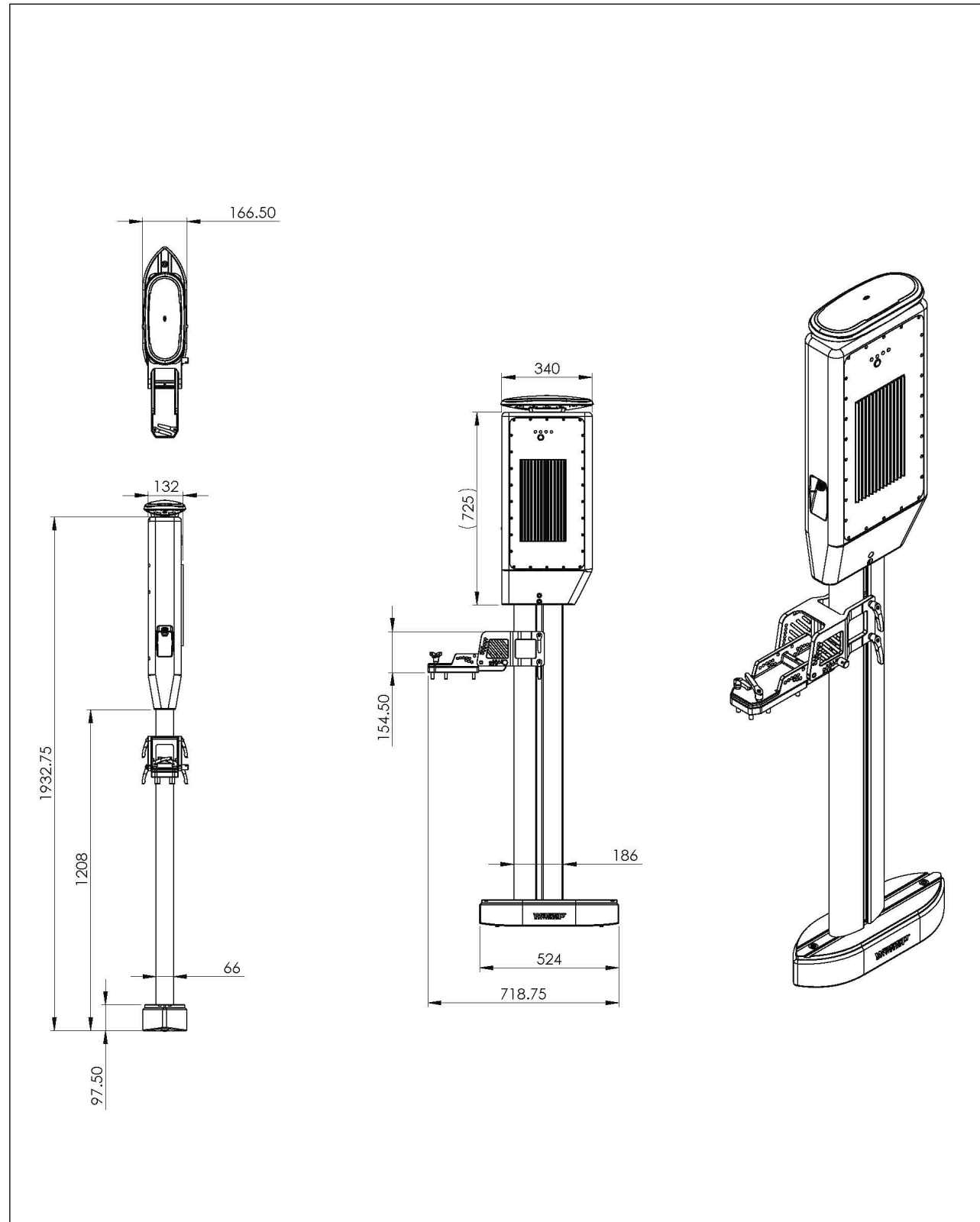
10.2. BASE PLATE DRAWINGS

10.3. BRACKET DRAWINGS
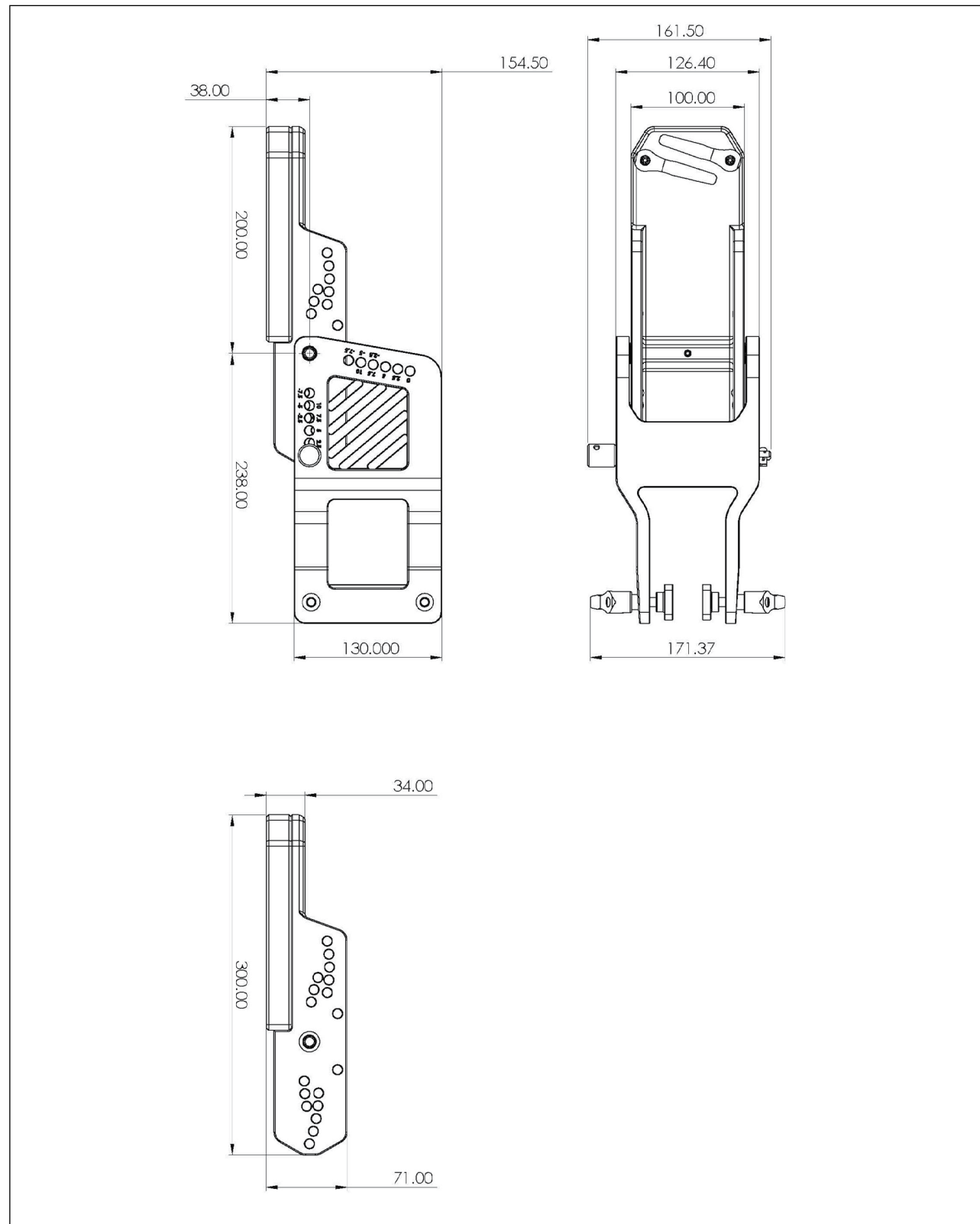
ITEM NO.	PART NUMBER	DESCRIPTION	SUPPLIER	Quantity
1	200829	Bracket Base Plate	SunPE	1
2	200830	Bracket Slider Plate	SunPE	1
3	200831	Bracket Pole Mount	SunPE	1
4	GFM-1012-12	10mm IGUS Flanged Bushing	IGUS	2
5	201037	Bracket Pivot Pin	SunPE	1
6	ISO 4026 - M6 x 10-N			1
7	K0124.208X30	Kipp M8X30 Clamping Lever	Kipp	6
8	201036	T-Slot Clamping Plate	SunPE	2
9	201038	Bracket Shear Pin ASM	SunPE	1
10	ISO 4762 M10 x 35 --- 35N			2
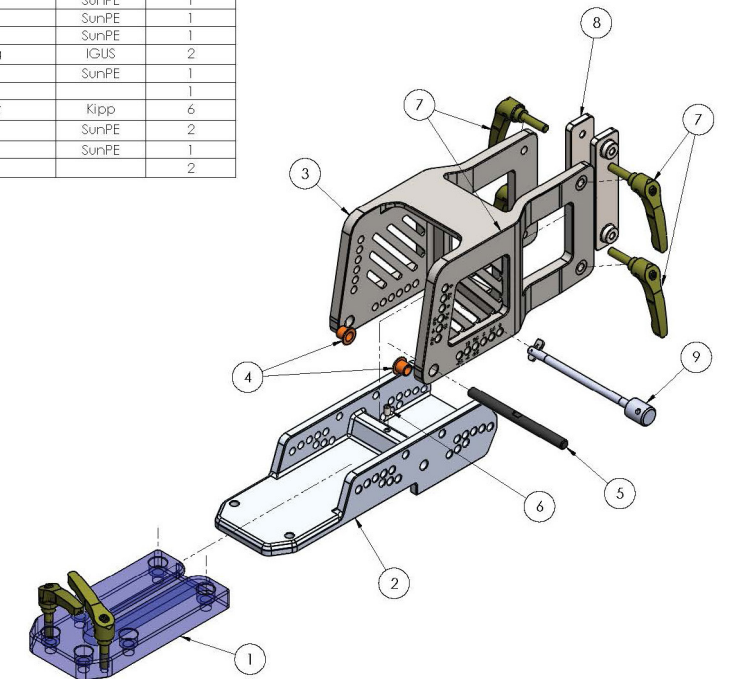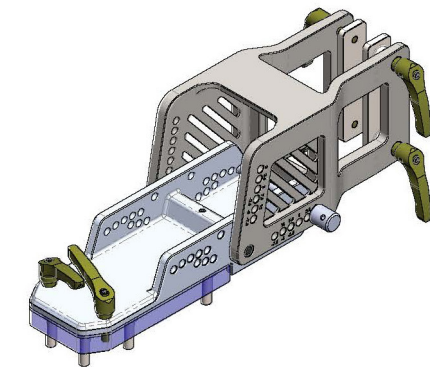
10.4. INTERCONNECTION DIAGRAM


```
            FRU-2P5S-FF-10M/20M, 10/20m *3
            FRU-2P5S-FF-15M, 15m, φ11         10A(12V, 10m CABLE)
                                               5A (24V)
12/24VDC  (+)                    RED                          7    0.5m
          (−)                    BLU                                        W3P
BLK − GND

                                    RJ45
                    PC              8
                    *1


                               LAN RJ45
                                   8
          ETHERNET HUB *2
                                   8      MOD-Z072, 2/5/10m        PC
12-24VDC  VH2P-MVVS0.75x2C  WHT   J1                              
          3.5m             BLK    1  (+)   8   STP CABLE (*1)      NETWORK EQUIPMENT
                                  2  (−)
```

NOTE
*1: SHIPYARD SUPPLY.
*2: OPTION.
*3: 15/20m option for 24VDC operation only
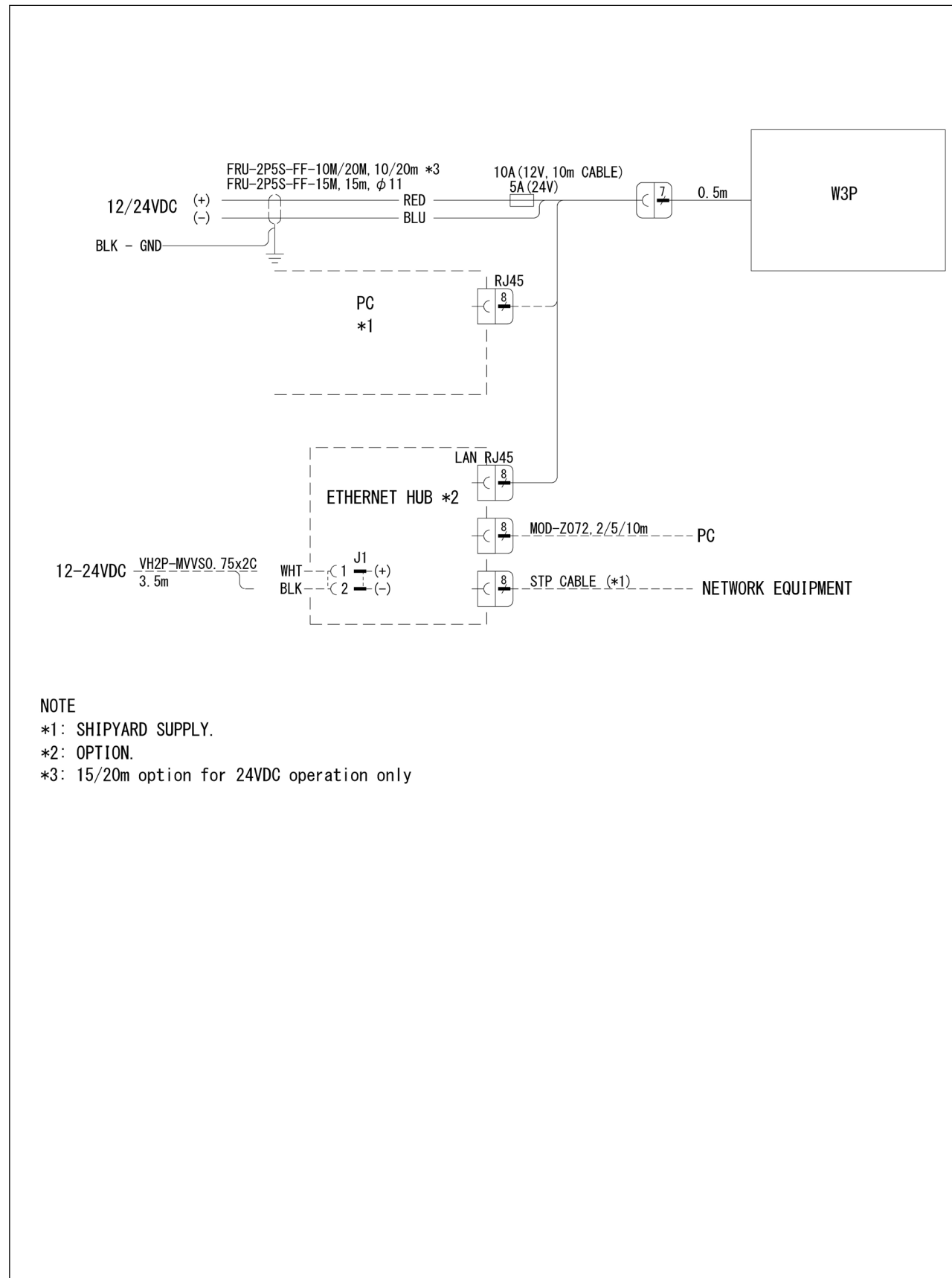
11 APPENDIX: PRODUCT REGISTRATION, SUPPORT AND RESOURCES

WARRANTY

DRX products are covered with a one year limited warranty. In order to be covered by the warranty, the WASSP DRX must be registered with WASSP Ltd. The product warranty registration form can be filled in online by going to: http://wassp.com/product-warranty-registration/

TECHNICAL SUPPORT

If you require maintenance and/or repair contact your local dealer. A list of WASSP dealers and distributors is available at wassp.com.

DRX technical support is available directly through:

»   Online: http://wassp.com/support/ and click on 'Request Support'

LATEST RESOURCES

»   For the latest version of manuals: http://wassp.com/support/ and click on 'Manuals'

»   For software updates and release notes: http://wassp.com/support/ and click on 'Request Support'

»   For Knowledge Base: http://support.wassp.com:8095/display/KB/

»   For System drawings, mechanical drawings and declarations of conformity: http://wassp.com/support/ and click on 'Request Support'

Page 38 of 40   wassp.com   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   Doc: W3 Pole Installation Manual
Version: 1.0 October 2021   wassp.com   Page 39 of 40