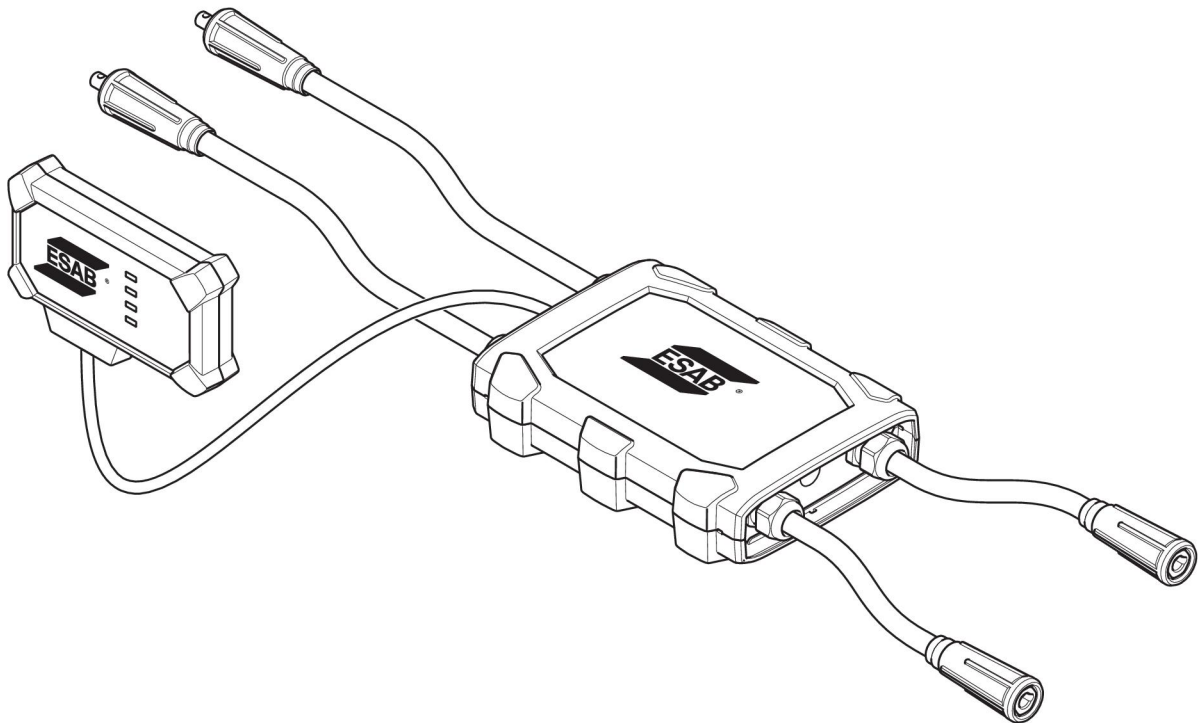# *WeldCloud™ Universal Connector*

Instruction manual

ESAB ®

EU DECLARATION OF CONFORMITY
According to
The Radio Equipment Directive 2014/53/EU
The RoHS Directive 2011/65/EU

Type of equipment
Welding data communication hub

Type designation
Universal Connector,   from serial number OP 132 YY XX XXXX
X and Y represents digits, 0 to 9 in the serial number, where YY indicates year of production.

Brand name or trademark
ESAB

Manufacturer or his authorised representative established within the EEA
Name, address, and telephone No:

ESAB AB
Lindholmsallén 9, Box 8004, SE-402 77 Göteborg, Sweden
Phone: +46 31 50 90 00, www.esab.com

The following harmonised standard in force within the EEA has been used in the design:

EN IEC 62368-1:2020	Audio/video, information and communication technology equipment - Part 1: Safety requirements
EN IEC 60974-1:2018	Arc Welding Equipment - Part 1: Welding power sources
EN 60974-10:2014	Arc Welding Equipment - Part 10: Electromagnetic compatibility (EMC) requirements
EN 300 328 V2.2.2	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum
EN 301 489-1 V2.2.0	Electromagnetic compatibility (EMC) standard for radio equipment and services - Part 1: Common technical requirements
EN 301 489-17 V3.2.0	Electromagnetic Compatibility (EMC) standard for radio equipment and services - Part 17: Specific conditions for broadband data transmission systems

Additional Information:
Restrictive use, Class A equipment, intended for use in location other than residential

By signing this document, the undersigned declares as manufacturer, or the manufacturer's authorised representative established within the EEA, that the equipment in question complies with the safety requirements stated above   .

Place/Date   **Signature**

Göteborg   Pedro Muniz
2021-08-26   Standard Equipment Director

CE

Rights reserved to alter specifications without notice.

1 SAFETY

1.1 Meaning of symbols

As used throughout this manual: Means Attention! Be Alert!

> 🚫 **DANGER!**
> **Means immediate hazards which, if not avoided, will result in immediate, serious personal injury or loss of life.**

> ⚠️ **WARNING!**
> **Means potential hazards which could result in personal injury or loss of life.**

> ⚠️ **CAUTION!**
> **Means hazards which could result in minor personal injury.**

> ⚠️ **WARNING!**
> Before use, read and understand the instruction manual and follow all labels, employer´s safety practices and Safety Data Sheets (SDSs).

1.2 Safety precautions

Users of ESAB equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
   ○ its operation
   ○ location of emergency stops
   ○ its function
   ○ relevant safety precautions
   ○ welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
   ○ no unauthorised person is stationed within the working area of the equipment when it is started up
   ○ no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
   ○ be suitable for the purpose
   ○ be free from drafts

4.   Personal safety equipment:
   ○   Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
   ○   Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5.   General precautions:
   ○   Make sure the return cable is connected securely
   ○   Work on high voltage equipment **may only be carried out by a qualified electrician**
   ○   Appropriate fire extinguishing equipment must be clearly marked and close at hand
   ○   Lubrication and maintenance must **not** be carried out on the equipment during operation

> ⚠ **WARNING!**
> - WeldCloud™ Universal Connector contains a lithium-ion battery (located in the electronics box). Charging of the battery is made during welding. If charging of the battery is needed when no welding is performed, use the included battery charger. Charging using any other type of charger may create a risk of fire.
> - When replacing the battery, only use a lithium-ion battery of the type specified in the WEAR PARTS chapter of this manual. Using any other type of battery may create a risk of injury and fire.
> - If the battery is removed from the electronics box, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
> - Under abusive conditions, liquid may be ejected from the battery. Avoid contact with any liquid! If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help. Liquid ejected from the battery may cause irritation or burns.
> - Do not use a battery that is damaged or modified. Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.
> - Do not expose a battery to fire or excessive temperature. Exposure to fire or temperature above +130 °C (+266 °F) may cause explosion.

> ⚠ **WARNING!**
> Do not connect the WeldCloud™ Universal Connector to a welding power source used in MMA mode. It can trigger or activate welding mode.

> ⚠ **CAUTION!**
> Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electromagnetic compatibility of class A equipment in those locations, due to conducted as well as radiated disturbances.
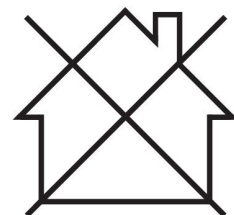
> **(i) NOTE!**
>
> WeldCloud™ Universal Connector is intended for maximum 15 kV HF peak ignition voltage in TIG welding. 15 kV is maximum peak ignition voltage in standard welding power sources of today. In older welding power sources, the maximum peak ignition voltage sometimes can be higher.

> **(i) NOTE!**
>
> **Dispose of electronic equipment at the recycling facility!**
>
> In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment and its implementation in accordance with national law, electrical and/or electronic equipment that has reached the end of its life must be disposed of at a recycling facility.
>
> As the person responsible for the equipment, it is your responsibility to obtain information on approved collection stations.
>
> For further information contact the nearest ESAB dealer.
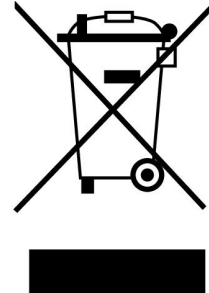
ESAB has an assortment of welding accessories and personal protection equipment for purchase. For ordering information contact your local ESAB dealer or visit us on our website.

2   INTRODUCTION

WeldCloud™ Universal Connector is a brand-agnostic welding measurement system used to enable data collection of any welding power source (ESAB made or numerous other welding power sources on the market). The welding current and welding voltage are measured and the collected data is sent to the WeldCloud™ cloud via Wi-Fi and the local network.

To install WeldCloud™ Universal Connector, access to WeldCloud™ web service is required. Register for a username and password to be able to access your WeldCloud™ account.

ESAB accessories for the product can be found in the "ACCESSORIES" chapter of this manual.

2.1   Equipment

WeldCloud™ Universal Connector is supplied with:

* Instruction manual
* Ratchet straps for attachment of the sensor box
* Two additional OKC connectors (95mm)
* Lithium-ion battery
* Battery charger for lithium-ion battery

2.2   Before setup of your WeldCloud™ Universal Connector

In order to complete the set-up of WeldCloud™ Universal Connector the following is needed:

* An Android device with operating system 8.0 or greater (recommended minimum screen size 4.7")
* A torx screwdriver size T10
* A WeldCloud™ account
* A fully charged lithium-ion battery (see below)
* A Wi-Fi network (2.4 GHz, WPA2)

2.2.1   Charging the lithium-ion battery

1. Insert the lithium-ion battery into the battery charger included in the delivery.
2. Charge the lithium-ion battery for at least 24 hours.

3   TECHNICAL DATA

WeldCloud™ Universal Connector, Valid from serial no. 849-xxx-xxxx, OP132YY-XXXXXX	
Permissible load (I_2):	
60% duty cycle	500 A
100% duty cycle	400 A
MIG	15 A / 14.8 V to 500 A / 39 V
TIG HF	15 A / 10.6 V to 500 A / 30 V
U_1	10–100 V
Current and power at U_1 = 30 V:	
I_1	0.3 A
P_{max}	9 W
Measurement accuracy (regarding measured current and voltage)	±2%
Operating temperature	-10 to +40 °C (+14 to +104 °F)
Battery data:	
Technology	Lithium-ion battery
Nominal voltage	3.7 V (±0.1 V)
Rated Capacity	3500 mAh
Storage temperature	-20 to +60 °C (-4 to +140 °F)
Charging temperature	+5 to +40 °C (+41 to +104 °F)
Dimensions (l × w × h):	
Sensor box	318 × 234 × 74 mm (12.5 × 9.2 × 2.9 in.)
Electronics box	238 × 147 × 40 mm (9.4 × 5.8 × 1.6 in.)
Weight:	
Sensor box	2.0 kg (4.4 lb)
Electronics box	0.7 kg (1.5 lb)
Totally including cables	7 kg (15.4 lb)
Enclosure class	IP54
Application class	S

Enclosure class

The **IP** code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects or water.

Equipment marked **IP54** is designed for indoor and outdoor use.

4   INSTALLATION

The installation must be carried out by a professional.

> ⚠ **CAUTION!**
>
> This product is intended for industrial use. In a domestic environment this product may cause radio interference. It is the user's responsibility to take adequate precautions.
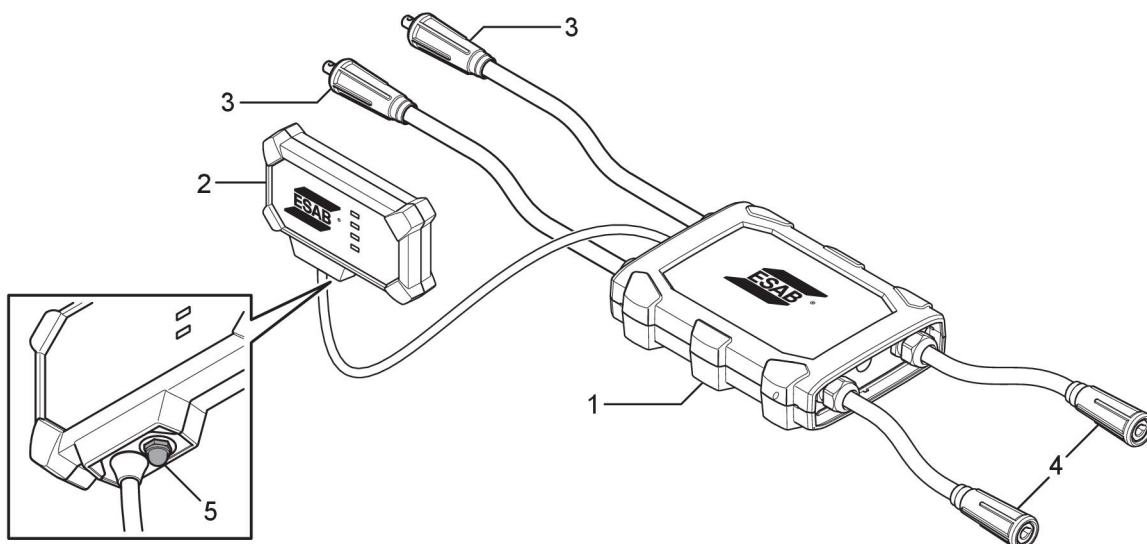
> ⚠ **WARNING!**
>
> Assure cables make full contact!

> ℹ **NOTE!**
>
> If you at any time need assistance, the chat support in WeldCloud is manned and available. Go to https://esabcloud.com, and find the support chat in the lower right corner.

4.1   Main components

1. Sensor box
2. Electronics box

3. Connection to welding output terminals on the power source

4. Connection to welding circuit
5. Push-button (to power up, shut down and restart the WeldCloud™ Universal Connector)

4.2   Inserting the lithium-ion battery into the electronics box

1. Make sure the lithium-ion battery is fully charged.
2. Loosen the two screws at the back of the electronics box. Remove the battery lid.
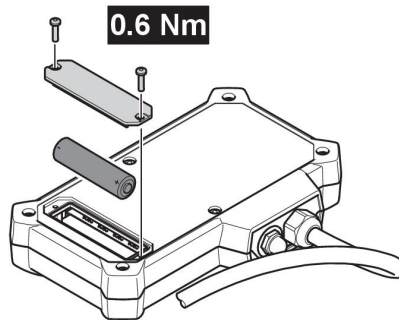
3. Insert the lithium-ion battery. Attach the battery lid and the screws in the reverse order. Tightening torque 0.6 Nm.

4.3   Installing WeldCloud™ Universal Connector

1. Attach the electronics box in a suitable position on the welding equipment, using Velcro® tape on the back of the electronics box.

    > **NOTE!**
    >
    > The electronics box contains a radio transmitter and receiver. Position it as high as possible on the welding equipment.

    a) Use alcohol to clean the area where the Velcro® tape is to be attached.
    b) Remove the protection cover of the Velcro® tape and attach the electronics box.

    Once the adhesive tape on the back of the Velcro® tape is fastened to the welding equipment, the electronics box can easily be attached and detached multiple times.
2. Connect the sensor box to the power source welding output terminals. It does **not** matter which connector is connected to the + terminal and which is connected to the - terminal of the power source.
    If the power source doesn't have OKC connectors: disassemble the OKC connectors from the sensor box cables and replace with the appropriate type of connectors.

    > ⚠ **WARNING!**
    >
    > The plugs may only be replaced by a specialist and must comply with the applicable standards for welding current connections. The plugs and sockets must be suitable for 400 A continuous current or 500 A 60% duty cycle. Connecting non-permissible contact elements or improper installation can lead to heating, cable fire and further consequential damage.
   >
    > This will void the warranty.
3. Connect the torch and the work lead to the sensor box, ensure the correct polarity (with respect to the welding output terminals) depending on the welding method used.

Examples of how to position the electronics box and the sensor box on the welding equipment. In the first case the ratchet straps included in the delivery are used to attach the sensor box to the trolley.
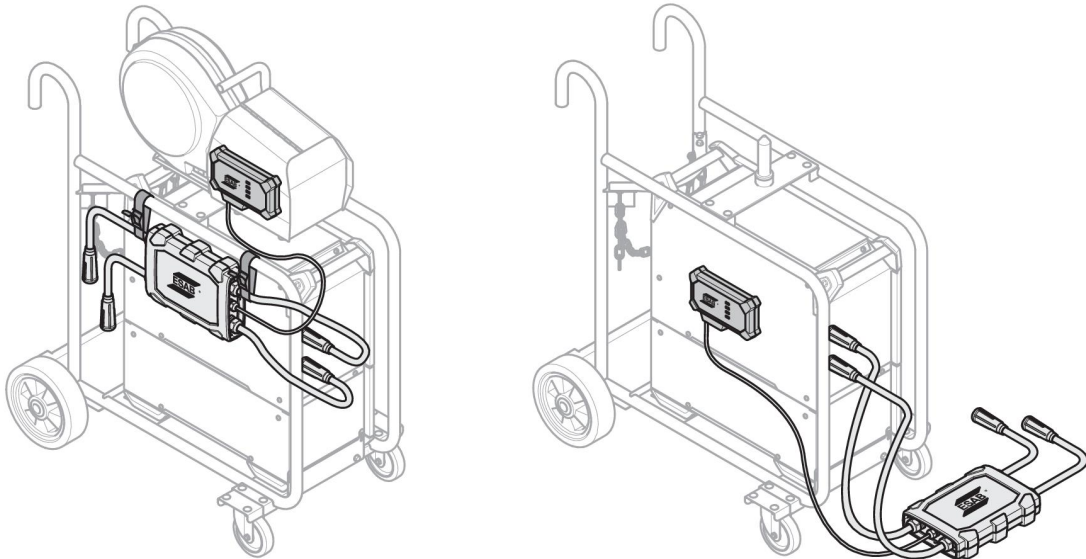
NOTE!

To ensure ingress protection (IP) of the WeldCloud™ Universal Connector, the sensor box and the electronics box must be positioned oriented according to one of the alternatives below.
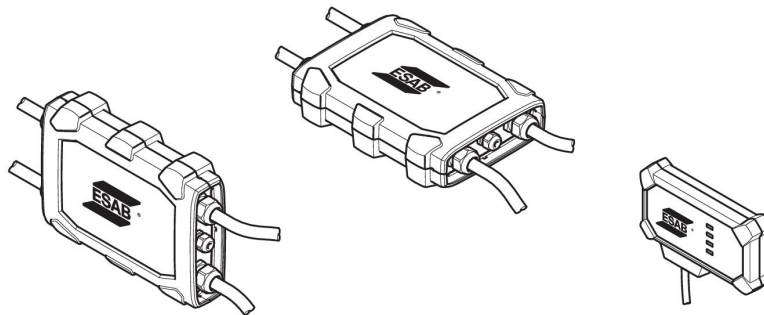
NOTE!

If the WeldCloud™ Universal Connector is used together with a power source with a Voltage Reduction Device (VRD), check that VRD functionality is maintained after the installation!

4.3.1   Replacing connector

CAUTION!

The connectors can cause burn injuries.

It is required to replace the non-ESAB cable connectors with the provided connectors if any of the following conditions occur:

- The connections to the welding output terminals on the power source are not secure.
- The connector is damaged.
- The rubber surface of the connector is very hot.
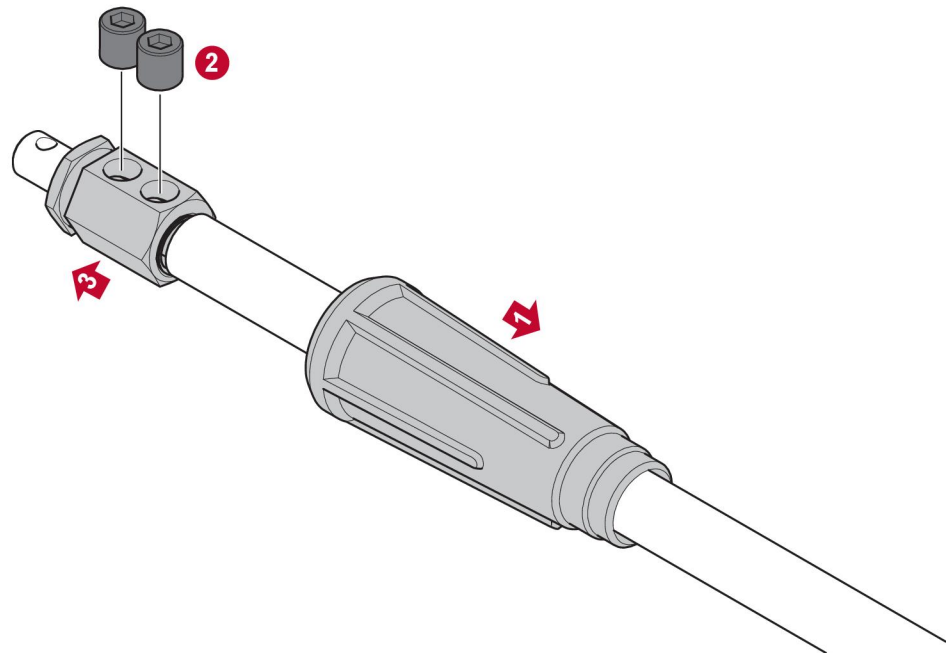
1. Pull the rubber housing (1) off the brass connector.
2. Remove the Allen screws from the brass connector (2).
3. Remove the brass connector from cable wiring (3).
4. If the cable wire shroud (4) is damaged or missing, add the provided cable wire shroud. Insert the cable wire with the cable wire shroud into the provided brass connector (5).
5. Tighten the Allen screws to fasten the cable wire in the brass connector (6). Tigthen the Allen screws to be aligned with or below the surface of the brass connector.
6. Pull the rubber housing back (7) until it completely covers the brass connector (5).
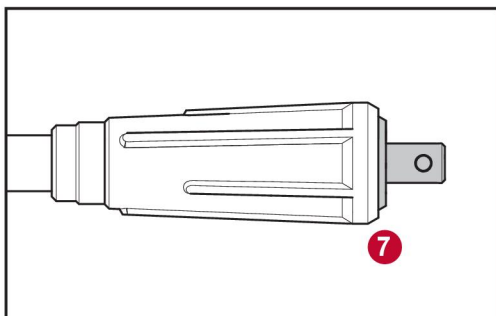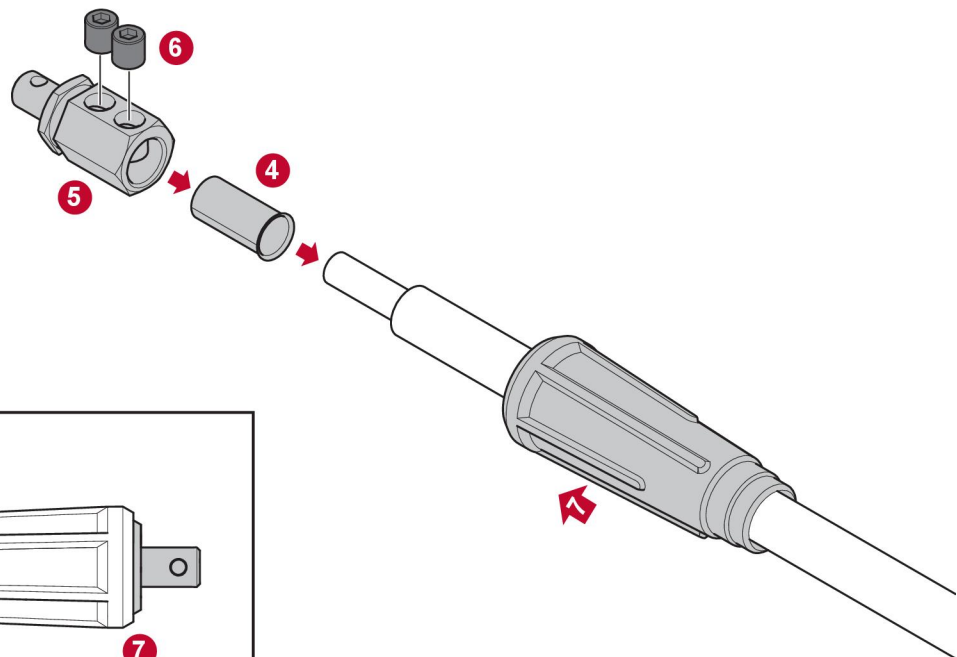
4.4 Setup of WeldCloud™ Universal Connector

After the physical installation of WeldCloud™ Universal Connector is completed, software setup of the system must be performed. The software setup includes the following main activities:

- Downloading and installing the application to the Android device from WledCloud Link. (Operating system 8.0 or greater, recommended minimum screen size 4.7".)
- Powering up the WeldCloud™ Universal Connector
- Pairing the Android device to the WeldCloud™ Universal Connector
- Connecting the WeldCloud™ Universal Connector to the local Wi-Fi network
- Connecting the WeldCloud™ Universal Connector to WeldCloud™ Cloud Platform

Each activity is explained below.

> **NOTE!**
>
> Starting with software version 2.0 of the Universal Connector there have been changes to the mobile application which are not compatible with older software versions. Contact us if you face issues or have old devices (version 1.x.x).

It is recommended to follow the online instructions.

For more information visit https://esab.com/weldcloud_guide.

4.4.1 Setting up a site in WeldCloud

Before setting up a Universal Connector, a Site in WeldCloud is required:

1. Go to https://esabcloud.com.
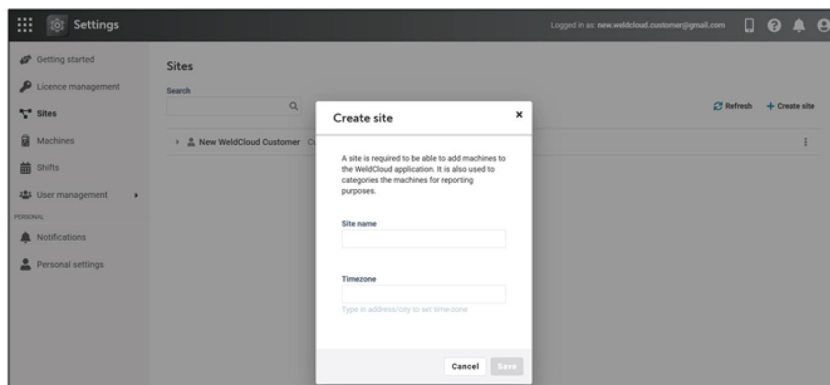2. Login to your account.
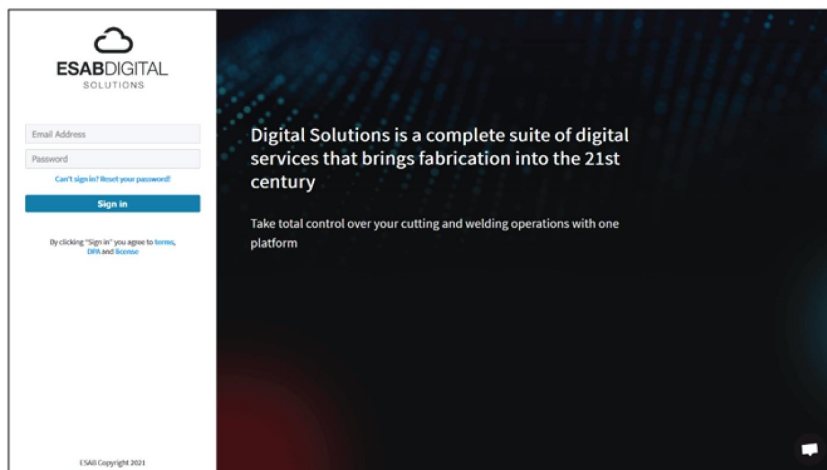
3.   Go to *Settings*.
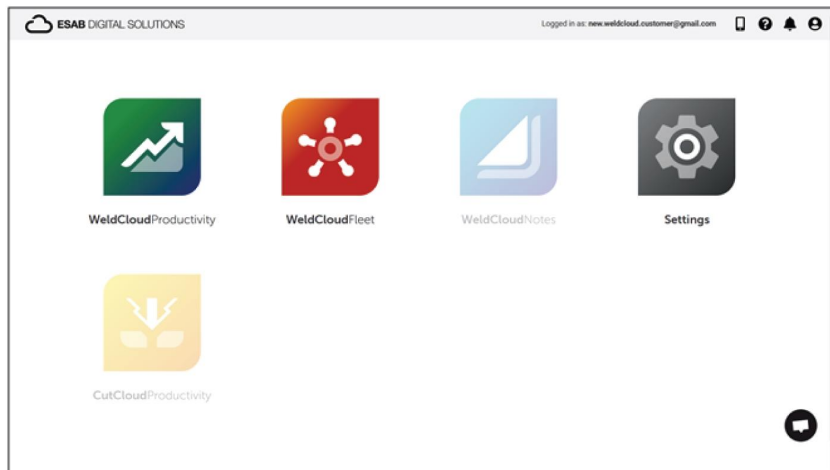
4.   Go to *Sites* in the menu to the left.
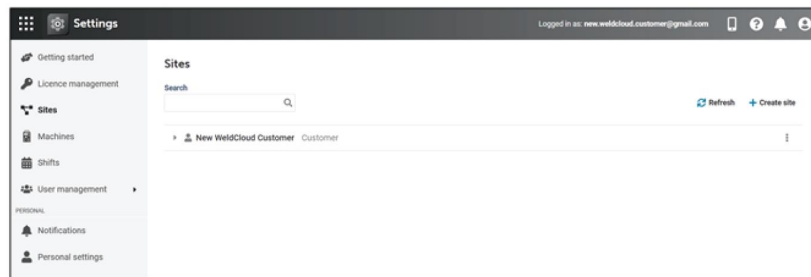
5.   Click on *Create site* to get a pop-up.
6.   Enter your desired name for the site and an address to get the correct time zone
7.   Click on *Save* to finish the creation.

8.   If you want to organize your machines further, it is possible to add sib-sites.
     Click on the 3 dots next to a site to open the menu.
9.   Click on *Add site under New site* in the pop-up menu.
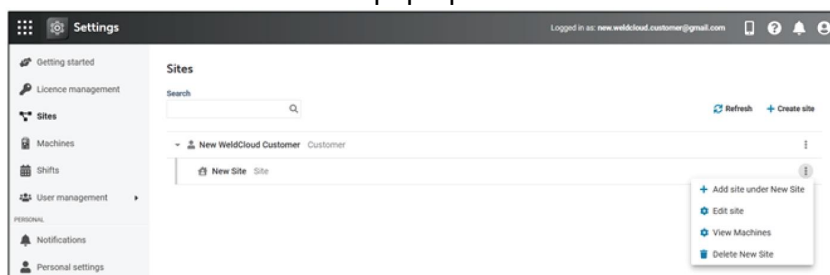
4.4.2   Downloading and installing the WeldCloud Link application

1. Download the latest software version of the Android application WeldCloud Link from the Google Play store.
    The WeldCloud Link application is found in the Google Play store, scan the QR-code below.

2. Install the WeldCloud Link application on the preferred Android device.

4.4.3   Powering up the WeldCloud™ Universal Connector

1. Initiate the WeldCloud™ Universal Connector by pressing the push-button on the right side of the signal cable inlet on the electronics box.
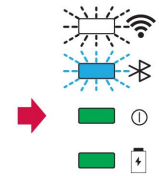
A steady green power LED on the electronics box indicates that the WeldCloud™ Universal Connector is On. This takes approximately 20 seconds.

4.4.4   Pairing the Android device to the WeldCloud™ Universal Connector

> **NOTE!**
> Make sure that the Universal Connector is powered on. Use the push-button if it is powered down or in sleep mode. A flashing blue Bluetooth LED indicates that the Universal Conector is ready to be used with the mobile application.

1. Enable Bluetooth on the Android device.
2. Start the WeldCloud Link application on the Android device.
    Click *CONNECT* and choose the desired device from the list. A new Universal Connector will show up as *Unprovisioned UC:<serial number>*. This can take up to 2 minutes.
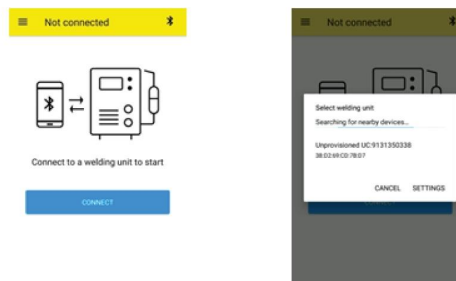
If the correct WeldCloud™ Universal Connector is **not** present in the list, click *Cancel* try *CONNECT* again.
If the correct WeldCloud™ Universal Connector is not found, make sure it is powered on.
If there still are issues, click *SETTINGS* to use the Android menu for connecting or pairing a new device. Refer to the manual of your device, for help on how to perform this.

On successful pairing the application automatically presents the *Live view* screen.

A steady blue Bluetooth LED on the electronics box confirms the connection to WeldCloud™ Universal Connector.

4.4.5   Connecting the WeldCloud™ Universal Connector to a local Wi-Fi network and to WeldCloud Cloud Platform

1. 1. Create a site in WeldCloud or make sure there is an existing site that can be accessed by your account. See XXX.
2. 2. In WeldCloud Link, click the menu button in the top left corner to open the menu.
3. Click on *Welding Unit Setup*.
4. Connect to the device.
5. Login to WeldCloud using an account with access to the intended site.
6. Click on *NEW SETUP* to setup a new Universal Connector.
    IMPORT EXISTING SETUP can be used to re-configure a Universal Connector when there already is an asset created in WeldCloud.
    NETWORK SETTINGS can be used to change your Wi-Fi settings.
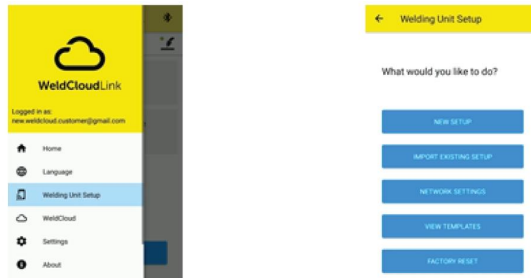
7. Login using your Welding unit password.
    The default password for the Universal Connector is "*gateway*".
8. Set a new password and save this information.
    If you ever forget your password, you can perform a factory reset using the service password "*gatewayreset*".
9. Click on Wi-Fi and add SSID and Password.
    Save as template if you wish to configure multiple devices.
    If you have a previous template, this can be used by selecting it in the template list.

> **i** **NOTE!**
>
> The Universal Connector uses wireless communication. Wired connection is not applicable for this product.

10. Click *NEXT* when complete.
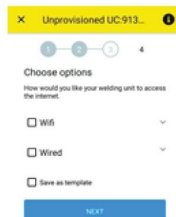
11. Enter a *Display* name which will be displayed in WeldCloud and for the Bluetooth interface.
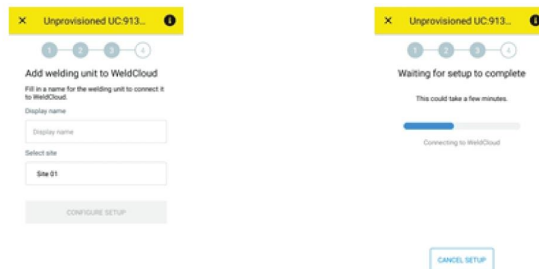
12. Click on *Select site* which will be used in WeldCloud.
13. Click on *CONFIGURE SETUP*
14. Wait for the setup to complete

4.4.6   Setup additional weld parameters

It is possible to add additional information to your weld sessions either in WeldCloud Fleet or in WeldCloud Link.

In WeldCloud Fleet you add information in the machine pages.

1. Go to *Machines & stations* and *List view*.
2. Click the machine you wish to add information.
3. In the *Weld information* card, click *Edit* and enter *Operator*, *WPS*, *Part ID*, *Work order* or *Wire*.
4. Click *Save*.

To add information through the mobile application WeldCloud Link, you must first create an operator group with the Universal Connector and any operator that will use the system.

1. Login to WeldCloud and go to WeldCloud Fleet.
2. In the left-hand menu, go to *Operator management* and *Operators*.
3. Click *Add operator* and add any WeldCloud user as an Operator or invite a new user using their email.
4. In the left-hand menu, go to *Operator management* and *Groups*.
5. Click *Create group* and enter a *Group name*.
6. In the *MACHINES* tab, click *Add machine*, select machines and click *Add*.
7. In the *MACHINES* tab, set permissions from the drop-down list.
8. In the *OPERATORS* tab, click *Add operators*, select operators and click *Add*.
9. Click *Save*.

In WeldCloud Link:

1. Connect to the Universal Connector.
2. Login with your WeldCloud account.
3. In the live view screen, click *BEGIN SCANNING*.
   If an ID and Password is requested means that you either aren't logged in in WeldCloud Link or your operator ID was rejected. Make sure you have setup Operator group as above. You can also try restarting the Universal Connector to update valid operators.

4. Click *Scan* to scan with camera or built-in barcode scanner, scan any barcode or QR code to add information.
    Select the type of the scanned item, such as Electrode, Electrode Batch, Flux, Flux Batch, Gas, Part, Tag, Wire, Wire Batch, Work order or WPS.
    The Tag type can be used for items that doesn't fit into any other category.

    > **NOTE!**
    >
    > The check mark indicates that the item has been sent to the Universal Connector. If the item isn't sent correctly, you can try to click the *Refresh* icon.

5. To remove items, click on the *Trash can* icon or the *CLEAR* button.

4.4.7   Factory reset

To clear all user data, configurations from the Universal connector and to reset the Welding unit password, a Factory reset can be performed.

1. Connect to the Universal Connector with WeldCloud Link.
2. Go to *Welding Unit Setup* in the left-hand menu.
3. Click *FACTORY RESET*.
4. Enter your Welding unit password or use the service password "***gatewayreset***".
5. Click *PERFORM FACTORY RESET*.

The factory reset will then be performed.

It can take a while before your mobile device will update the name of the Universal Connector back to *Unprovisioned UC:<serial number>*. If there are any problems with the connection, restart the Universal Connector or remove the pairing in the Bluetooth settings of your mobile device.

5   OPERATION

5.1   Power supply

The WeldCloud™ Universal Connector is powered from the welding circuit during welding. There is no need for external power supply to the unit.

The WeldCloud™ Universal Connector has a lithium-ion battery as backup power when no welding is conducted. The lithium-ion battery is charged during welding.

5.2   Operation modes

The WeldCloud™ Universal Connector has three operation modes:

- **System off**
  Data collection is off. The system will start up at weld start or when the push-button on the electronics box is pressed. Start up takes approximately 20 seconds, during this time no welding data is collected. After a total of 60 seconds, Wi-Fi and Bluetooth will be ready to use.
- **Sleep mode**
  Battery saving mode. The system will wake up at weld start or when the push-button on the electronic box is pressed. Wake up takes approximately 1 second, during this short time no welding data is collected. If no welding is detected for 2 hours, the system will shut down automatically.
- **System on**
  The system is capable of data collection. Weld start detection takes approximately 1 second, during this short time no welding data is collected. The system will go to sleep 5 seconds after a weld.
  If the mobile application is connected, the system will be on for 20 minutes.
  If the system was started using the push-button, the system will also be on for 20 minutes

The WeldCloud™ Universal Connector can always be turned on or off manually by the push-button on the electronics box.

5.3   Status indication LEDs
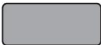
Four status indication LEDs (Light-Emitted Diodes) are located on the electronics box.
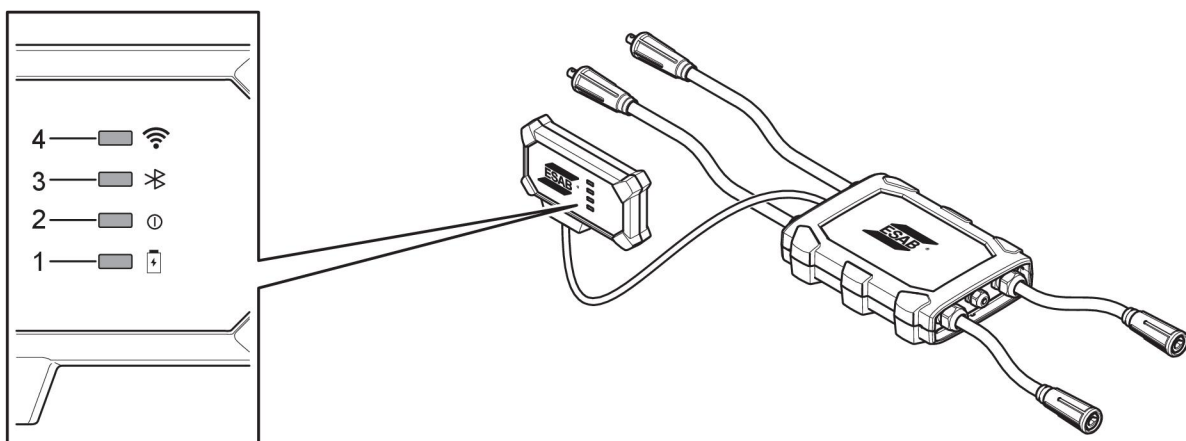
1. Battery LED
2. Power LED
3. Bluetooth LED
4. Wi-Fi LED

1. Battery LED

Indication	Explanation
	System is Off or in Sleep mode
Green flashing	Charging
Red fixed	Low battery
Green fixed	Charging complete
Orange fixed	Discharging
Red short flashing	Battery missing or defect, or battery discharged
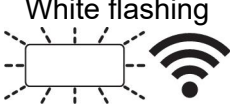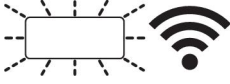
2. Power LED

Indication	Explanation
Off	System off
Green flashing	Starting up
Green fixed	System on or Sleep mode
Orange fixed	Welding ongoing

3. Bluetooth LED

Indication	Explanation
Off	Bluetooth off, No connection possible
Blue short flash every 2 seconds	Ready for pairing
Blue fixed	Connected

4. Wi-Fi LED

Indication	Explanation
Off	Wi-Fi off, No connection possible
White flashing	System connected to the local Wi-Fi network but **not** to WeldCloud™ cloud.
White short flash every 2 second	System ready but **not** connected to the local Wi-Fi network. (Configuration not correct or Wi-Fi point unavailable.)
White fixed	System connected to the local Wi-Fi network and to WeldCloud™ cloud.

5.4 Measuring and storing data

WeldCloud™ Universal Connector measures the absolute average values of the welding current and the welding voltage. The data is collected at high-speed sampling rate. Averaging of the data, down to 10 samples per second, is done to limit the amount of data sent to the WeldCloud™ cloud.

The amount of data created and stored with each weld is dependent of:

- The welding time
- The amount of information entered into the system prior to welding

After each weld, the data is automatically sent to WeldCloud™. If the connection to the cloud is lost, the data is internally stored in WeldCloud™ Universal Connector. More than 10,000 weld seams of 10 seconds can be stored. If the system is reconnected, the internally stored data is automatically sent to the WeldCloud™ cloud.

> **NOTE!**
> The current must drop below 15A for at least 0.5 second to stop recording. If two or more welds are done without 0.5 second pause then they will be registered as one combined weld.

5.5 Welding system compatibility

The Universal Connector can have issues when connected to some systems.

The Universal Connector:

- Does not support welding in MMA as this can trigger welding mode in some power sources.
- Has a maximum current limit of 400 A 100% duty cycle and 500 A 60% duty cycle.
- Does not support power sources with a test voltage.

5.5.1 Test voltage

Various power source manufacturers apply a test voltage to the welding cables during standby. This is used to determine if there is a short circuit. The ignition behavior at start is then changed accordingly. These test voltages are usually less than 24 V (typically 14-18 V) and have a high resistance. If the wire electrode touches the workpiece during standby, this test voltage collapses (less than 2 V).

The current electronics of the Universal Connector are not able to distinguish these test voltages from real welding voltages. This wakes up the Universal Connector and tries to obtain power.

As a result of these problems, the following phenomena may occur during the power source standby mode:

- Continuous switching on of the Universal Connector even without welding current.
- Incorrect current and voltage displays on the mobile device.
- Potentially short seams in the WeldCloud with wrong values.
- Battery discharge.

To identify test voltage:

1. Connect the Universal Connector to the power source.
2. witch on the power source and select a normal MIG/MAG welding program.
3. Check that the power source is in standby mode/not welding.
4. Observe Universal Connector. The Universal Connector can be started by starting the power source.
   After 20 minutes or less it will go into sleep mode. It has to remain in this sleep mode for at least 2 minutes while the power source isn't welding.
   If the Universal Connector starts without welding or wakes up continuously without welding, the power source is currently not suitable.

6   MAINTENANCE

> **ℹ NOTE!**
> Regular maintenance is important for safe and reliable operation.

> **⚠ CAUTION!**
> All warranty undertakings from the supplier cease to apply if the customer attempts any work to rectify any faults in the product during the warranty period.

6.1   Inspection and cleaning

Clean boxes, cables and connectors included in the WeldCloud™ Universal Connector system from dust using a dry cloth, according to ordinary work shop practice, when needed.

6.2   Validation

The accuracy of the external sensor is recommended to be validated periodically. The validation can be coordinated with the user's validation of welding equipment in general. If accuracy is found to be out of tolerance, contact an authorized ESAB distributor or service centre for further assistance.

6.3   Charging the lithium-ion battery

Normally charging of the lithium-ion battery in the electronics box is made during welding. If charging of the lithium-ion battery is needed when no welding is performed it can be removed from the electronics box and charged in a separate battery charger. Use a charger of the L1 type intended for lithium-ion batteries of the 18650 type. Only use chargers with CCCV (constant current, constant voltage) characteristics. Do not charge more than 4.2 V. Charging using any other type of charger creates a risk of fire.

6.3.1   Storing the Universal Connector

If the WeldCloud™ Universal Connector is to be stored, make sure that the lithium-ion battery is fully charged. For a longer storage period, remove the lithium-ion battery from the electronics box! Before reusing the WeldCloud™ Universal Connector, charge the lithium-ion battery using the included battery charger.

7   TROUBLESHOOTING

Try these recommended checks and inspections before sending for an authorized service technician.

| Type of fault	Corrective action
The battery LED on the electronics box is not lit or is flashing with red light, despite the fact that welding is going on. The WeldCloud™ Universal Connector has got no power or the battery is low.	Use the included charger and charge the lithium-ion battery for minimum 24 hours or replace it with a fully charged spare lithium-ion battery.
The welding power source is not turned on and nothing happens when the push-button (on the electronics box) is pressed.	Use the included charger and charge the lithium-ion battery or replace it with a fully charged spare lithium-ion battery.
There is no data for the specific WeldCloud™ Universal Connector visible in the WeldCloud™ software.	Check the power LED on the electronics box. The power LED should be on with a green fixed light. If the power LED is off or is flashing with a green light, power up the WeldCloud™ Universal Connector (by pushing the button) and wait until it has entered the ready mode (power LED fixed green).
	Check the Wi-Fi LED on the electronics box. The Wi-Fi LED should be on with a white fixed light. If the Wi-Fi LED is flashing with a white short flash every 2 seconds, connect the WeldCloud™ Universal Connector to the local Wi-Fi network. If the Wi-Fi LED is flashing steadily in white, connect the WeldCloud™ Universal Connector to WeldCloud™ cloud.
The welding power source shows unexpected error messages or exposes unintended behaviour when it is connected to the WeldCloud™ Universal Connector. Some modern welding power sources operating in MMA (stick) mode, has sensitive safety protection circuits that can be disturbed by the WeldCloud™ Universal Connector.	Contact your welding power source supplier and ask for advice.
The OKC connector rubber surface is hot.	Check if the cable connection is tight. Make sure that the cable connection makes full contact. Twist the male and female OKC connector ends until locked together.
	Replace the male connector with provided male OKC connector. See chapter "Replacing connector".

8   ORDERING SPARE PARTS

WeldCloud™ Universal Connector is designed and tested in accordance with the international and European standards **IEC/EN 60974-1** and **IEC/EN 60974-10 Class A**. It is the obligation of the service unit which has carried out the service or repair work to make sure that the product still conforms to the mentioned standards.

Spare parts and wear parts can be ordered through your nearest ESAB dealer, see esab.com. When ordering, please state product type, serial number, designation and spare part number in accordance with the spare parts list. This facilitates dispatch and ensures correct delivery.
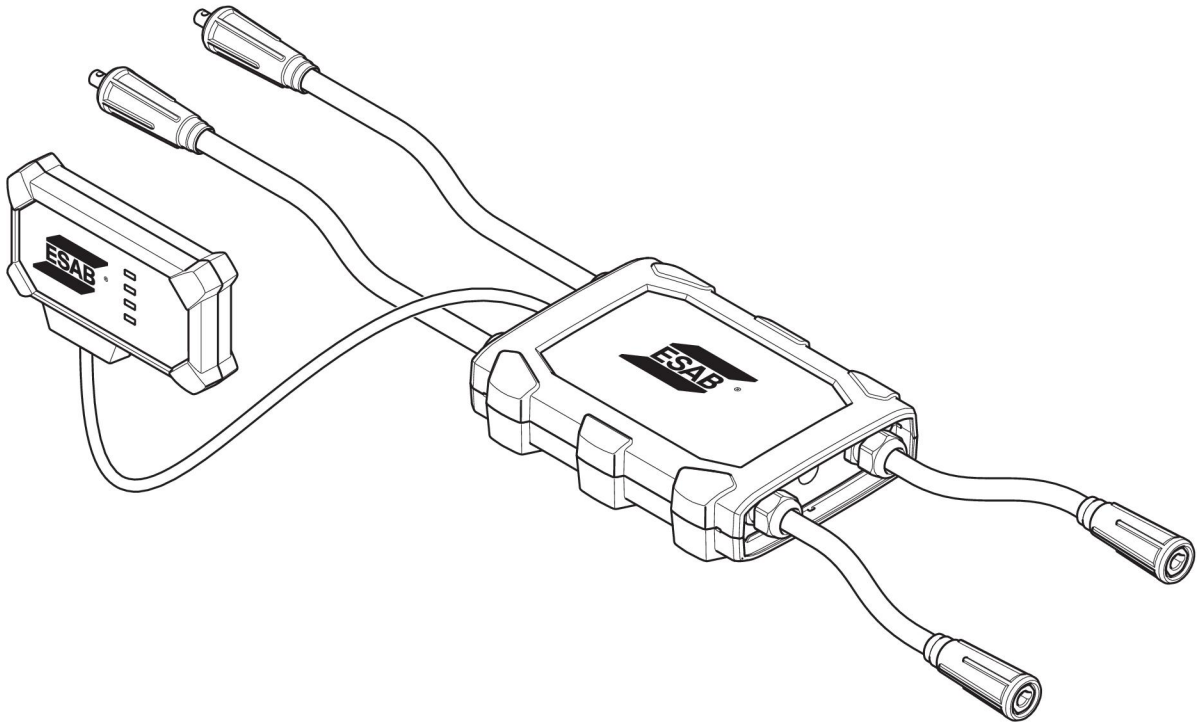
DIAGRAM

Voltage sensor

Current sensor

Measuring, power calculation and communication with WeldCloud™
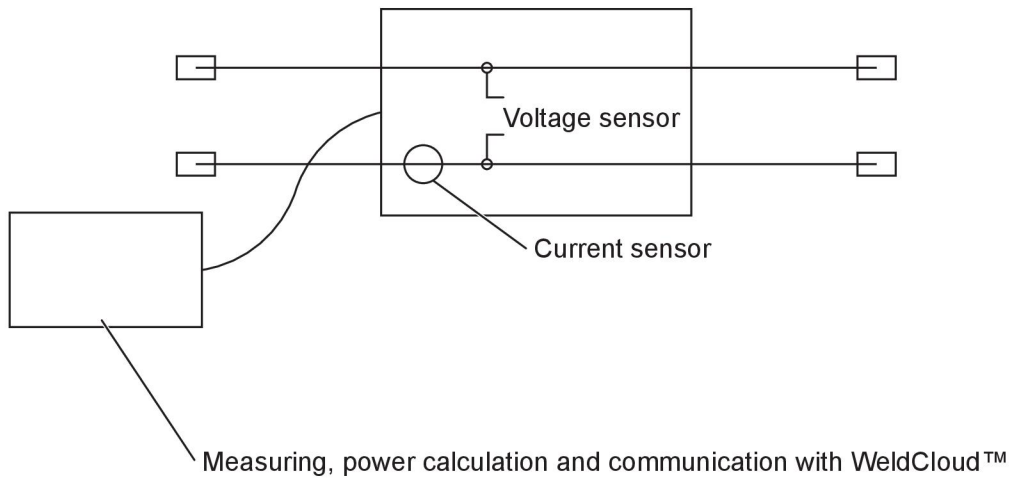
ORDERING NUMBERS

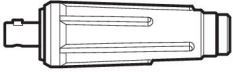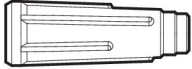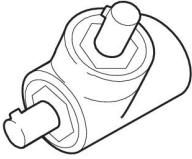| Ordering number	Denomination	Type
0445 690 880	WeldCloud™ Universal Connector	Basic
0463 602 001	Service manual	WeldCloud™ Universal Connector
0463 603 001	Spare parts list	WeldCloud™ Universal Connector
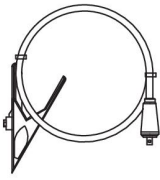
WEAR PARTS

Ordering number	Denomination	Notes
0194 008 101	Lithium Coin Cell Battery	3 V, 225 mAh
0445 670 001	Lithium-ion battery	Type 18650

ACCESSORIES

0160 360 882	OKC 95 male cable connection (4 pieces)	
0160 361 882	OKC 95 female cable connection (4 pieces)	
0365 557 001	Angle connection, 1 male, 2 female	
0365 558 001	Angle connection, 2 male, 1 female	
0700 006 899	Return cable, 3 metres, OKC 50	

A **WORLD** OF **PRODUCTS** AND **SOLUTIONS.**

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