



BDI ELECTROFUSION WELDING MACHINE USER GUIDE





DEAR CUSTOMERS;

- Thanks for preferring our machine. We hope that our machine will meet your expectations and we would like you to contact us using our contact information for all your opinions and suggestions.
- Electrofusion Welding Machine is a machine which has AC current output. It is used only in the welding of manufactured pipe fittings made of polyethylene and polypropylene by electrofusion method; It also can be used for boiling all brand electric fittings.
- It is strictly forbidden to use the Electrofusion Welding Machine except for its purpose. It must be used by personnel who has required knowledge and experience about welding. The machine should not be used outside the diameters specified in its model.
- Please read user guide carefully before using the Electrofusion Welding Machine and you need to start the welding operation taking all necessary safety precautions.
- **We wish you to use our machine on good days.**



SAFETY RULES

- **IF THE ELECTRIC SHOCKED WHEN YOU TOUCH THE BODY OR HANDLE OF THE MACHINE, THERE IS NO GROUNDING ON YOUR ELECTRIC LINE. HAVE YOUR ELECTRICIAN CHECK THE GROUNDING LINE. NEVER USE YOUR MACHINE IN NON-GROUNDED INSTALLATIONS.**
- Do not install this machine on inflammable surfaces or do not run machine on these surfaces.
- Keep machine and barcode reader away from water, liquid and chemicals. Do not plunge into water or do not spray water on it. NEVER EXPERIENCE YOUR MACHINE WITH WATER OR LEAVE IT IN HUMID ENVIRONMENTS.
- Do not bring your machine into direct contact with fire and heat.
- Exposure to electrical current can cause fatal shocks or serious burns.
- When the power switch is in the open position electrical current is available at the input and output circuits.
- Make sure the grounding line is connected correctly and there is no leakage. Make sure that there is a LEAKAGE CURRENT RELAY at the input of your network.
- Protect your machine from unauthorized and unauthorized use.
- Make sure you are not wet while using your machine.
- When checking connections, make sure that there isn't any bare cable. Do not touch bare cables.
- Do not use a damaged lead wire and replace it immediately with a new one.
- The machine should be sent for maintenance every year to ensure efficient use.
- Use the equipment recommended by the manufacturer during maintenance or service.
- Use the lead wire preventing it from wrapping your body.
- Long-lasting machine noise can cause difficulty in; use proper earplugs.
- Do not open the machine, except for authorized service, since there is electricity, electronic card inside the machine.
- The magnetic field can affect the pacemaker; people using this device should be kept away from the machine. Persons using this device should consult a doctor before using the welding machine.
- High frequency cause interference in radio, computer, television or communication media; in such cases consult an electricity operator. The user is obliged to take precautions against sources of power that may cause such interference when placing the machine.
- Do not carry the machine by pulling it's cable, do not remove from the socket by pulling the cable, protect all cables from heat, oil and cutter, sharp surfaces.
- Use 3x2.5mm sectioned cable as extension cable, MAKE SURE THAT THE EXTENSION CABLE DOES NOT EXCEED 25 METERS.
- Persons and institutions purchasing the machine will be deemed to have accepted the above conditions. Our company and its employees are not responsible for any damages, material losses, moral losses and loss of life that may occur due to the reasons listed above.



INSTALLATION AND RUNNING OF MACHINE

ADVICES FOR INSTALLATION

- It must be put in a place where it can cool itself comfortably so that the machine can work efficiently, it. For this reason, there should not be any obstacles which will make air circulation difficult in the place where the machine will work. The electrofusion welding machine should not be exposed to direct heat.
- The electrofusion welding machine should be placed on a sturdy floor so that it will not fall and can not fall over.
- Heat tests were carried out at ambient temperature and the operating factor was set to -15 + 60 °C by simulation; take into account.
- Do not weld in open areas during windy and rainy weather. If it is necessary to weld, you should place the electrofusion welding machine and welding area in protective housing.

NETWORK CONNECTION

- Electrofusion Welding Machine works at 1 phase **220 VAC** 50-60 Hz supply voltage. The socket which will be connected must have a grounding line in accordance with the relevant standards. The machine must not be run on any connections without grounding lines.
- **It should never be used in 3-phase networks.** Problems that may arise as a result of using in 3-phase networks are not covered by warranty. The machine's network must be protected by a 32A insurance.

GENERATOR CONNECTION

- Electrofusion Welding Machine works with the generator which provides 1 phase 220 VAC 50-60 Hz supply voltage. Check how much power your generator should generate from the Technical Specifications Table.

POWER CABLE

- The power cable is determined by reference to the machine current values. To increase the length of the power cable, only use extension cables with the following characteristics:
 - * Up to 20 meters: 3x1.5 mm² (2.5 mm² recommended) H07RN-F Type
 - * Between 20-25 meters: 3x2.5 mm² (4 mm² recommended) H07RN-F Type

MAKE SURE SUPPLY NETWORK THAT YOU USE HAS A GROUNDING NETWORK.

OUTPUT SOCKETS AND LEAD WIRES

- **CAUTION:** Loose connection and uncompression of the lead wire can cause overheating of the cables and damage to the cables. Use the appropriate socket for the fitting you welded, make sure the joint is tight. Do not use sockets or socket adapters that are burnt or not suitable for use.



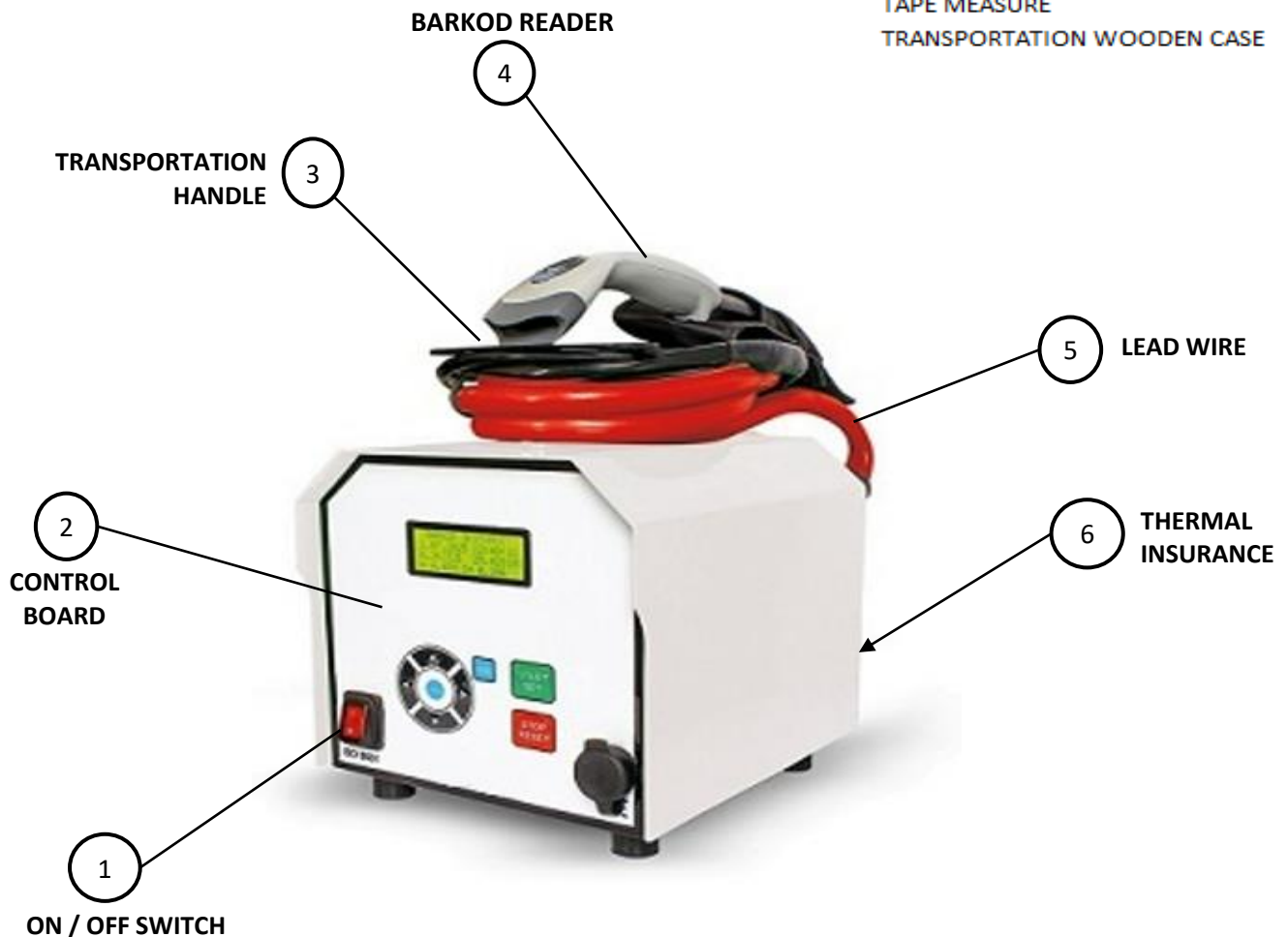
TECNICAL SPECIFICATIONS AND STANDARD ACCESSORIES

	BDI 160	BDI 200	BDI 400	BDI 800	BDI 1200	BDI 1600
FITTING DIAMETER	20-160 mm	20-200 mm	20-400 mm	20-800 mm	20-1200 mm	20-1600 mm
NETWORK VOLTAGE	220V/1~	220V/1~	220V/1~	220V/1~	220V/1~	220V/1~
POWER OF JENERATOR	4,5 KVA	5,5 KVA	7,5 KVA	7,5 KVA	8 KVA	8 KVA
MAX PRIMARY CURRENT	10 A	16 A	16 A	25 A	25 A	25 A
VOLTAGE SETTING FIELD	8-42 V	8-48 V	8-48 V	8-48 V	8-48 V	8-48 V
CURRENT SETTING FIELD	0-30 A	0-50 A	0-60 A	0-80 A	0-100 A	0-120 A
PROTECTION CLASS	IP54	IP54	IP54	IP54	IP54	IP54
DIMENSIONS (mm)	150 x 230 x 180	320 x 275 x 225	320 x 275 x 225	320 x 275 x 225	320 x 275 x 225	320 x 275 x 225

WARNING! IN MINI MODELS, THE USB FLASH MEMORY INPUT IS ALSO THE BARCODE READER INPUT.

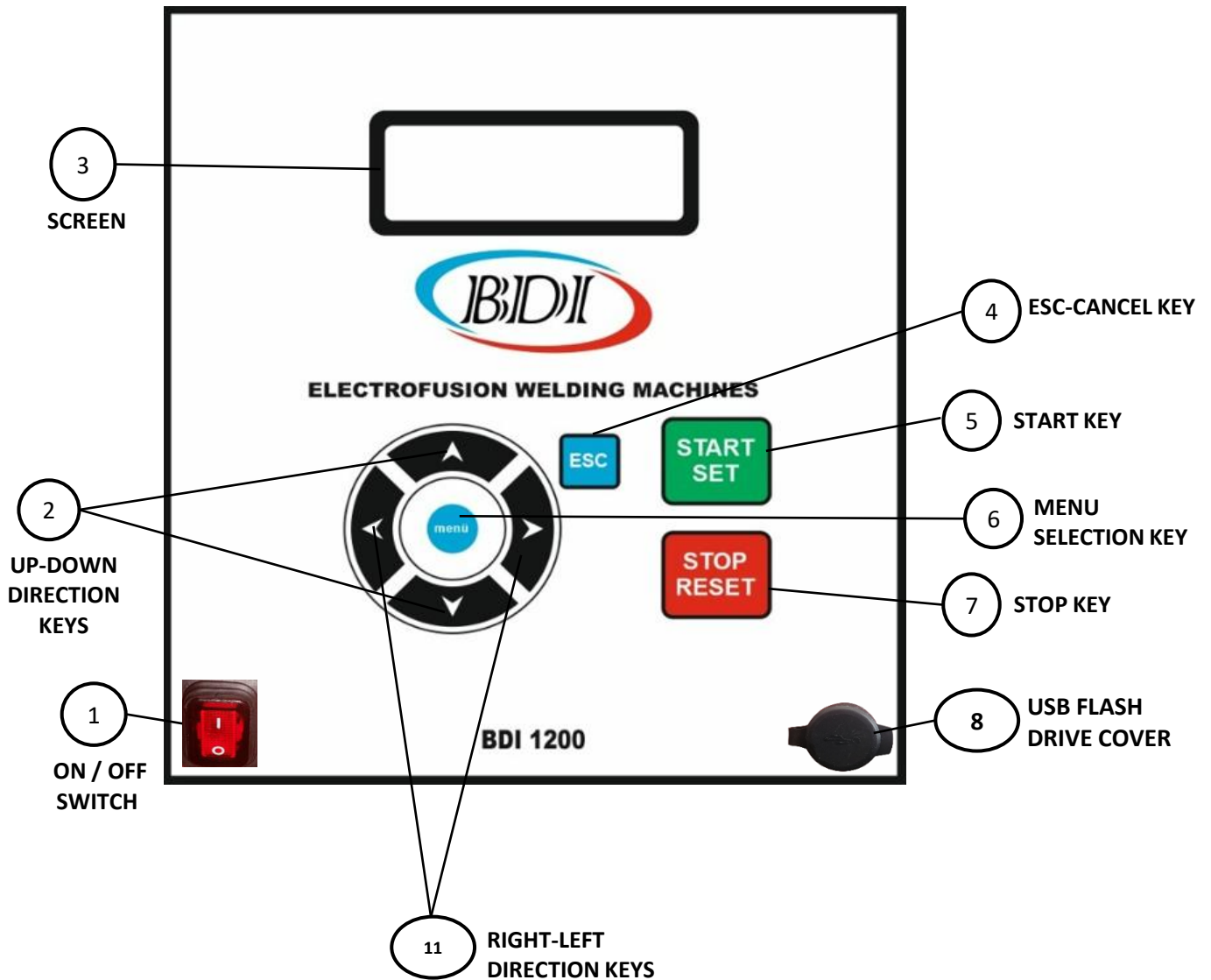
STANDARD ACCESSORIES

LEAD WIRE: 10mmx3m
 POWER WIRELESS: 3mmx2,5m
 BARCODE READER AND COVER
 2 PIECE OPERATOR CARDS AND CASE
 MARKING PEN
 TAPE MEASURE
 TRANSPORTATION WOODEN CASE





CONTROL BOARD



MENU SCREEN SELECTIONS:

- WELDING BY SCANNING BARCODE (PAGE 7)
- WELDING BY MANUALLY ENTERING VOLTAGE AND WELDING TIME (PAGE 7)
- WELDING BY MANUALLY ENTERING BARCODE NUMBERS (PAGE 7)
- OBTAINING A WELDING REPORT (PAGE 8)
- OPERATOR MODE (PAGE 8)
- LANGUAGE SELECTION (PAGE 8)
- POWER OUTAGE (PAGE 8)



ELECTROFUSION WELDING

- Prepare the area to be welded for an efficient welding by following the rules for fitting and joining of the pipe.
- Take necessary **safety precautions**.
- Insert the **output sockets on the fitting** to be welded.
- Take **the on-off switch** located on the front panel of the machine **1 position**.

WELDING BY SCANNING THE BARCODE

- When the machine is first turned on, it is programmed to select the SCAN THE BARCODE method.
- Make sure the barcode reader is plugged in.
- After viewing the "SCAN THE BARCODE" statement, scan the barcode on the fitting with a barcode scanner. The voltage, duration, brand, diameter, cooling time, resistance value and type informations of the fitting will be displayed on the screen.
- When the informations of the fitting appears on the screen, press the START button to start welding.
- The display will show HEATING and the countdown timer will begin counting down.
- At the end of the welding time, the machine will automatically stop welding and the cool-down timer will begin counting down; there is no need to press the STOP button.

```
BARCODE READ!  
02.08.2025 11:44:57  
37.964672 32.506947  
U= 3.00V I= 0.12A
```

WELDING BY MANUALLY ENTERING WELDING DATA

- When the machine is first turned on, it is programmed to select the SCAN BARCODE method. To change this, press the MENU button. While the arrow is on the MANUAL ENTRY line, press the MENU button.

and Welding Time information on the fitting (after seeing the underline below the digit you want to enter) by increasing/decreasing it with the up/down direction keys. Move to the next number with the right arrow key. If you make any mistakes, move to the previous number with the left arrow key.

- After making sure that you have entered all the source data correctly,
- The information (voltage and duration) of your last weld will remain in memory.
- The words HEATING will appear on the screen and the time countdown timer will start counting
- At the end of the welding time, the machine will automatically finish the welding and the cooling timer will start counting down; there is no need to press the STOP button.

```
BARCODE READ!  
29.06.2025 04:04:01  
234V/50Hz ---- R  
NO CONNECTION  
→MANUEL INPUT  
  BARCODE INPUT  
  SETTINGS  
  REPORT ↓  
-MANUEL INPUT  
--VOLT(U) :40  
--TIME(s) :0713
```

WELDING BY MANUALLY ENTERING BARCODE NUMBERS

- When the machine is first turned on, it is programmed to select the SCAN BARCODE method. To change this, press the MENU button. While the arrow is on the BARCODE ENTRY line, press the MENU button.

• On the screen that opens, the digits where you will enter the barcode number are defined as 0. After you see an underscore below the digit you will enter the barcode number, enter the barcode numbers on the fitting by incrementing/decrementing them with the up/down direction keys. Move to the next digit with the right direction key. If you make any mistakes, move to the previous digit with the left direction key.

- After verifying that you have entered all barcode numbers correctly, press the START button.
- The message "HEATING" will appear on the screen, and the timer will begin counting down.
- At the end of the welding time, the machine will automatically stop welding and the cool-down timer will begin counting down; there is no need to press the STOP button.

```
BARCODE READ!  
29.06.2025 04:04:01  
234V/50Hz ---- R  
NO CONNECTION  
MANUEL INPUT ↑  
→BARCODE INPUT  
  SETTINGS  
  REPORT ↓  
-BARCODE INPUT..  
-- 000000000000  
   000000000000
```



SETTINGS

The settings menu is only related to calibration, only authorized persons and services can intervene in this part.

OBTAINING A WELDING REPORT

- Our machine has a 30,000 welding memory, it does not give a memory full error, when 30,000 welding data is recorded, it continues recording by deleting the first welding data; there is no need or necessity to empty the memory.
- Format the flash drive inserted into the FLASH MEMORY SLOTTLE using FAT32.
- Remove the protective plastic cover from the FLASH MEMORY SLOTTLE.
- Insert the flash memory into the FLASH MEMORY SLOTTLE. When the flash memory symbol (U) appears in the lower right corner of the main screen, press the MENU button. Using the DOWN ARROW KEY, move the arrow to the REPORT line. Press the MENU button to execute the REPORT command. The message "REPORTING" will appear for a few seconds, during which time the machine will transfer the welding memory to the flash memory. Remove the flash memory, replace the protective plastic cover, and press the ECS button to continue using the machine.

```
BARCODE READ!  
29.06.2025 04:04:01  
234V/50Hz ---- R  
NO CONNECTION
```

```
MANUEL INPUT ↑  
BARCODE INPUT  
SETTINGS  
→REPORT ↓
```

OPERATOR MODE

- WHEN OPERATOR MODE IS ACTIVATED, THE MACHINE WILL NOT TURN ON UNTIL THE OPERATOR BARCODE IS READ. IT WILL PROVIDE THE FOLLOWING ERROR. DO NOT ACTIVATE THIS MENU IF YOU ARE NOT AUTHORIZED AND DO NOT HAVE YOUR OPERATOR CARD WITH YOU!
- If you are authorized and have the Operator Barcode, press MENU and use the Up/Down direction keys to move the Arrow Sign to the OPERATOR MODE Line, then press the MENU key.
- If there is a 0 next to VALUE, operator mode is off. If there is a 1 or other numbers, operator mode is active.
- ACTIVATE OPERATOR MODE by typing any number other than 0 next to VALUE using the up/down arrow keys. Confirm your selection by pressing the MENU key. Once you activate Operator Mode, your machine will start with the message "SCAN OPERATOR BARCODE" and will not operate until the operator barcode is scanned.
- To make it inactive, make sure that the number 0 is next to the VALUE statement.

```
READ OPERATOR BARCODE
```

```
OPERATOR MODE ↑  
→LANGUAGE SELECT
```

```
-OPERATOR MODE  
--Value: 0
```

LANGUAGE SELECTION

- When the machine is first turned on, it is programmed to select the SCAN BARCODE method. To change this, press the MENU button. Press the down arrow key as many times as necessary.
- Press the MENU button while the arrow is on the LANGUAGE SETTINGS line, and the arrow will move to the section where the languages to be selected are displayed.
- Select the desired language with the up/down arrow keys. Confirm your selection by pressing the MENU key.

```
OPERATOR MODE ↑  
→LANGUAGE SELECT
```

```
→TURKCE  
ENGLISH  
SWEDISH  
SPANISH ↓
```

```
→FRENCH ↑  
1
```

POWER OUTAGE

- In the event of a power outage, our machine displays the remaining welding time on the screen.
- To view the remaining time, press the MENU button. While the arrow is on the MANUAL ENTRY line, press the MENU button. The remaining
- Press START again to continue welding.

```
-MANUEL INPUT  
--VOLT(U) :40  
--TIME(s) :0713
```



MAINTENANCE

- Before starting maintenance, ensure the machine is disconnected from power.
- Clean the machine's exterior with a slightly damp cloth.
- Check the insulation of the power cable and lead wire.
- Check all screws.
- Some equipment contains high voltage and high frequency (HF) and must be repaired and maintained by authorized or qualified personnel. Therefore, do not open the machine cover for any reason unless you are authorized or qualified to do so.

PROBABLE MALFUNCTION AND SOLUTION METHODS

* **Malfunction Definition:** On-off key is on 1 position, the on-off LED is not illuminated, the display is not illuminated and There is no welding production.

* **Solution Method:**

- Check whether on-off key is functional or malfunctional.
- Check whether there is electricity in grid circuit that power cable connected, check thermal insurance (If the thermal fuse is blown, the on-off switch will be live, but the display will not be. This is to protect your machine from the adverse effects of low voltage.) in case of continuous discharge of thermal insurance check your generator.
- Check power cable for breakage.

* **Malfunction Definition:** On-off key is on 1 position; screen is visible but there isn't welding production.

* **Solution Method:**

Check lead wire and its connection.

* **Malfunction Definition:** The machine gives the error "NO CONNECTION".

* **Solution Method:**

Check that the fitting is fully connected. If you are certain that it is connected correctly, check for broken internal wires by inserting another fitting. Ensure that the sockets are firmly attached to the fitting. Do not weld with loose, broken, or deformed sockets.

* **Malfunction Definition:** The machine gives "VOLTAGE ERROR".

* **Solution Method:** If you see the VOLTAGE ERROR warning on the screen, your mains voltage is either too low or too high. Ensure your mains voltage is between 180-250V. If it is not within these values, do not attempt to use the machine in this condition.

* **Malfunction Definition:** The machine gives "RESISTANCE ERROR".

* **Solution Method:** If you see the RESISTANCE ERROR warning on the screen, the fitting's resistance does not match the resistance value on the barcode label. Ensure the fitting has not been used before or has not been exposed to excessive heat. If the problem persists, contact the fitting manufacturer/supplier.

* **Malfunction Definition:** The machine gives "SERVICE TIME ERROR".

* **Solution Method:** If you see a SERVICE TIME ERROR warning on the screen, send it to an authorized service for periodic maintenance as soon as possible.

IMPORTANT POINTS AND WARNINGS

* As our machine is in compliance with international standards, it prolong and shorten weld time according to ambient temperature (when it is hot, weld time is short; when it is cold, weld time is long). It isn't a malfunctional situation, **it is an application planned with software so as to increase quality of the weld you made.**

* We recommend that you send your machine once a year to our After Sales Service Unit or our Authorized Service **for general maintenance and calibration control.**

* As our machine is used in sensitive applications, service and maintenance for defects outside these faults can only be performed by our factory after-sales service department or by authorized and trained service technicians authorized by us. This ensures that the application maintains its constant quality and safety standards.

*** IN THE WARRANTY PERIOD, IF YOU EXPERIENCE THE MACHINE EXCEPT FOR OUR FACTORY'S AFTER THE SALES SERVICES OR OUR AUTHORIZED SERVICES WARRANTY CANNOT BE CAPABLE. THIS SITUATION ABDICATE OUR FACTORY GUARANTEES DISCLAIM ANY LIABILITY FOR ANY INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.**

* All images in this user manual may vary depending on the type, species and model. BRIGHT DEAL has the right to change all software and hardware features.



FINAL CHECKING FORM

MACHINE SERIAL NUMBER:

MARKING*: P2 - 3 - U - S2 - V - A - D - X

MACHINE MODEL:

ASSEMBLY DATE:

CONTROLLED PARTS	CONTROLLED SPECIFICATIONS	CONDITIONS OF CONFORMITY	
METAL CASE	COLOR	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	PAINTING QUALITY AND SURFACE	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
MONITOR	WORKING CONTROL	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	DATA INPUT WITH BARCODE	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	DATA INPUT WITH MANUEL	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
CONTROL UNIT	WORKING CONTROL	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
BARCODE READER	WORKING CONTROL	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
CARRING TOOLS	BAG/WOODEN CASE CONTROL	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
GENERAL ASSEMBLY	GENERAL STATUS OF INSTALLATION	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	EARTHING QUALIFICATION	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	CONTROL OF INSTALLED PARTS	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	OUTPUT VOLTAGE (FREE LOAD)	OUTPUT VOLTAGE CONTROL WITH MULTIMETER	<input type="checkbox"/> OK	☐ NOT OK
	CALIBRATION CONTROL	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
OUTPUT VOLTAGE (LOADED)	OUTPUT VOLTAGE CONTROL WITH MULTIMETER	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	..... FITTINGS SECONDS	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	..... FITTINGS SECONDS	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	..... FITTINGS SECONDS	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK
	..... FITTINGS SECONDS	<input type="checkbox"/> OK	<input type="checkbox"/> NOT OK

CONTROLLED:

APPROVED:

... / ... / 20....

MARKING STANDARD:

1. Marking by according to nominal input voltage

- P1 (SVLV: safe, very little voltage (less than 50V))
- P2 (LV: low voltage (50V to 250V))
- P3 (HV: high voltage (250V to 400V))

2. Marking by according to nominal output voltage

- 1 (>0 kW but <= 1 kW)
- 2 (>1 kW but <= 2 kW)
- 3 (>2 kW but <= 3 kW)
- 4 (>3 kW but <= 4 kW)
- 5 (>4 kW)

3. Marking by according to output control type

- U (Voltage control)
- I (Current control)
- E (Energy control)
- W (Voltage and current control)

4. Marking by according to output voltage

- S1 (SVLV: safe, very low voltage (8V to 42V))
- S2 (VLV: very low voltage (8V to 84V))
- S3 (LV: low voltage (8V to 250V))

5. Marking according to fusion parameters

- F (Fixed fusion values)
- V (Variable fusion values)

6. Marking by data input method

- K (Manual data input)
- A (Automatic data input)

7. Marking according to data usage

- D (Equipped with data collection system)

8. Marking by fitting brand number

- M (Single purpose (only one trademark))
- X (Multi purpose - several trademarks)



**BRIGHT DEAL
INTERNATIONAL GEN.
TRADING LLC**

PO BOX 108380, MUSAFFAH ABU DHABI / U.A.E.

Tel: +971 02 6794433 - Fax: +971 02 5586338

Mob: +971523590146

www.bdiuae.com – trading@bdiuae.com