

## Portable Strain Gage Welding Unit

### FEATURES

- Lightweight and compact size.
- Weld energy is continuously adjustable from 10 to 60 joules, making the Model 700B an excellent choice for installing weldable strain gages and temperature sensors, as well as small thermocouples and light-gage metal.
- Fast welding rate – up to 60 welds per minute
- Replaceable rechargeable battery allows smooth continuous operation.
- “Low-battery” indication to warn the user when the Li-ion battery requires charging.
- Optional carrying bag with shoulder strap and belt loops providing convenient storage space for cables, batteries, battery charger welding tips and instruction manual
- Optional ruggedized work case for safe storage of kit

### DESCRIPTION

The Model 700B is an update to our Model 700 welding and soldering unit which has been used for decades for installing many thousands of strain gages worldwide. It offers a modern, compact design with a removable Lithium-ion battery and has a rugged exterior for use in adverse field conditions.

This lighter unit (less than a third of the previous design) and compact dimensions simplifies installations in difficult-to-reach environments. An optional ballistic nylon bag with straps and a carabiner is available with additional space for storing accessories.

Weld energy can be changed from 10 to 60 joules in 1 joule increments, indicated on a digital display. It is capable of producing 60 welds/minute for fast installation. Approximately 1500 welds can be performed on a single



charge, equivalent to around 30 Micro-Measurements linear weldable gages. A removable battery pack and a 30-minute fast charger enables continuous working.

Successful and consistent welds require a proper earth connection; both mechanical clamp and magnetic mount earth leads are available. For additional safety and improved performance a resistance-to-ground check is performed for every weld.

The Micro-Measurements Model 700 Welder is ideal for installing Micro-Measurements CEA, LWK, LEA, LZN and LZE weldable strain gages. Proper installation techniques for weldable gages are detailed in our Instruction Bulletin B-131.

### SPECIFICATIONS

All specifications are nominal or typical at +73°F (+23°C) unless noted.

| PARAMETER   | SPECIFICATION  |
|---|--|
| <b>GENERAL</b>  |  |
| Power for recharging  | 115 VAC or 230 VAC, 50-60 Hz. (different chargers)   |
| Temperature range<br>Operating and storage<br>Battery storage | -4°F to +140°F (-20°C to +60°C)<br>+40°F to +105°F (+4°C to +40°C) (recommended)   |
| Size<br>Main unit<br>Handle<br>Battery<br>Cables (2)          | 8.25 x 7.5 x 3 in (210 x 191 x 76.2 mm)<br>6.25 x 1.85 x 3.3 in (159 x 47 x 84 mm)<br>1.9 x 1.2 x 3.4 in (48 x 30 x 86 mm)<br>60 x 0.31 in (1524 x 7.9 mm) |
| Weight  | 6.9 lb (3.14 kg)   |
| Main unit material  | Rugged powder-coated extruded aluminium, splash proof  |
| <b>WELDING SPECIFICATIONS</b>                                 |  |
| Weld Energy Range   | 10 to 60 joules, in 1-joule steps, adjustable by front-panel control.  |
| Maximum Weld Repetition Rate                                  | 60 per minute at 30 joules, typical  |

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| PARAMETER   | SPECIFICATION   |
|---|---|
| Number Of Welds Per Battery Charge  | Approximately 1500 at weld energy setting of 30 joules. This is equivalent to approx. 30 Micro-Measurements linear weldable gage installations  |
| Battery charge time (from full discharge):  | 40 minutes typical  |
| Battery   | Replaceable rechargeable Li-ion battery, 3.0 Ah, 7.6 – 12.6 Vdc (10.8Vdc nominal)   |
| Welding Probe   | Manually fired with trigger control and “steady-rest”   |
| Welding Cables  | Two 5 ft (1.5 m), fully flexible  |
| Ground cable  | Magnetic mount & mechanical clamp options, 5 ft (1.5 m), 6AWG   |
| Weld Energy Monitor   | Calibrated front-panel control with READY indicator; audible indication selectable  |
| <b>SAFETY</b>   |   |
| Auto detect ground  | <1 Ohm resistance test on return ground path  |
| Self-test on power-up   |   |
| <b>COMPLIANCE</b>   |   |
| FCC Part 15 Class B, CE   |   |
| <b>ACCESSORIES</b>  |   |
| <ul style="list-style-type: none"> <li>• Replaceable rechargeable battery</li> <li>• Battery charger</li> <br/> <li>• Straight welding tip</li> <li>• Bent welding tip</li> <li>• Extension rod</li> <li>• Rugged carrying bag</li> <br/> <li>• Ruggedized work case</li> </ul> | <p>Milwaukee® M12™ REDLITHIUM™ Li-ion 3.0 Ah battery<br/>                     Milwaukee® M12™ REDLITHIUM™ Li-ion battery charger (110VAC or 220VAC)</p> <p>Ballistic nylon bag with shoulder strap, belt loops, carabiner attachment, large pocket for cables and trigger with inner sleeve for spare parts</p> |

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### ORDERING INFORMATION:

| MODEL NUMBER | DESCRIPTION                            | ITEM DETAILED CONTENT   |
|--------------|--|---|
| 700B         | Welding Unit w/o Battery & Charger     | 700B – Welding Unit. This kit includes:<br>- 700B Welder<br>- Welding handle and cable assembly<br>- Magnetic and mechanical ground cable assemblies<br><b>Battery and charger not included.</b>  |
| 700B-110     | Welding Unit w/ Battery & 110V Charger | 700B – Welding Unit with Battery and 110V Charger. This kit includes:<br>- 700B Welder<br>- M12 Battery 3AH<br>- M12 Battery Charger 110VAC<br>- Welding handle and cable assembly<br>- Magnetic and mechanical ground cable assemblies |
| 700B-220     | Welding Unit w/ Battery & 220V Charger | 700B Welding Unit with Battery and 220V Charger. This kit includes:<br>- 700B Welder<br>- M12 Battery 3AH<br>- M12 Battery Charger 220VAC<br>- Welding handle and cable assembly<br>- Magnetic and mechanical ground cable assemblies   |

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| MODEL NUMBER | DESCRIPTION   | ITEM DETAILED CONTENT   |
|--------------|---|---|
| 700B-HNDL    | Welding Handle Assembly<br>(Spare or replacement unit)  | Spare or replacement welding trigger handle and cable assembly.<br>Includes:<br><ul style="list-style-type: none"> <li>- One straight welding tip</li> <li>- Power cable, 5 ft (1.5 m) 6 AWG red cable</li> <li>- Trigger cable, 5 ft (1.5 m) 18/3 AWG yellow flexible cable</li> </ul>   |
| 700B-GND     | Ground Clamp Assemblies<br>(Spare or replacement units) | Spare or replacement grounding cable assemblies. Includes:<br><ul style="list-style-type: none"> <li>- Magnetic black grounding clamp assembly (5 ft (1.5 m) 6 AWG)</li> <li>- Mechanical black grounding clamp assembly (5 ft (1.5 m) 6 AWG)</li> </ul>  |
| 700B-M12-3   | M12 Battery 3.0 AH                                      | Milwaukee M12™ REDLITHIUM™ 3.0 Amp battery  |
| 700B-CH-110  | M12 Battery Charger 110 VAC                             | Milwaukee M12™ battery charger. 110VAC input  |
| 700B-CH-220  | M12 Battery Charger 220 VAC                             | Milwaukee M12™ battery charger. 220VAC input  |
| 700B-WC      | Ballistic Nylon Work Bag                                | The Ballistic Nylon work bag comes with shoulder strap and integral carabiner D-rings. Capable of carrying the 700B, two spare batteries, welding handle with cables, ground clamp assemblies, and spare welding tips. <b>Bag only.</b>   |
| 700B-ST-STR  | Straight Welding Tip                                    | Single straight welding tip   |
| 700B-ST-CUR  | Curved Welding tip                                      | Single curved welding tip   |
| 700B-ER      | Welding Extension Rod                                   | Single welding extension rod  |
| 700B-WU      | Welding Main Unit (spare or replacement unit)           | Welder main body only. No welding handle or ground clamp assemblies. <b>No battery or charger.</b>  |
| 700B-WNS     | Wing Nuts Spares  | Set of two (1/4-20 and 10-32) stainless steel wing nuts.  |
| 700B-TC      | Ruggedized Work Case                                    | Rugged watertight transit case with custom anti-static foam cut out for 700B. Conforms to FedEx/UPS and IATA guidelines for shipping Lithium-Ion batteries. Capable of holding the 700B, four M12-30 batteries, Ballistic Nylon Work Case, M12 Charger, spare welding tip kit. Interior dimensions: 20 x 14 x 7.7 Inches (51 x 36 x 20 mm). |