

Stud Welding Equipment - Automatic Components

CDMi 2402 TECHNICAL DATA SHEET



CDMi 2402

Stud Welding Unit
for CD stud welding
(capacitor discharge welding)
according to current standards

Inverter-Capacitor Charging Technology

- Maximum welding rates
- Minimum energy consumption
- Minimum weight
- Maximum efficiency

Technical Data	
Automation	Series
Welding range	#4 to 5/16" (7/16" limited), dia. 14 ga to 5/16" (dia. 3/8" limited) M3 to M8 (M10 limited), dia. 2 to 8 mm (dia. 10 mm limited)
Welding material	Mild steel, Stainless steel, Aluminum, Brass
Welding rate	M3 = 40 studs/min. (Charging voltage 60 V) M8 = 21 studs/min. (Charging voltage 170 V) (M10 = 17 studs/min. (Charging voltage 210 V))
Capacitance	99 000 µF/33 000 µF*
Welding time	1 to 3 msec
Energy	2 400 Ws/800 Ws*
Charging voltage	50 to 220 V (stepless voltage regulation)
Primary power	115 V, 50/60 Hz, 10 AT
Power source	Capacitor
Cooling type	F (temperature controlled cooling fan)
IP-Code	IP 21
Dimension L x W x H	22.44" x 11.22" x 11.42" (570 x 285 x 290 mm) without handle
Weight	57.32 lbs (26 kg) * with change over of capacitors
Order No	92-12-22412 (Automation)
General Information	
Application	• Especially suitable for thin sheets (at least 0.5 mm)
Process variants	• Contact welding • Gap welding
Equipment	• Automation (series) • Menu navigation in various languages: German, English, French, Italian, Russian, Portuguese, Spanish and Chinese



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Advantages

Features

- Microcontroller – for precise process times, optimal functional reliability and maximum operating convenience
- Function monitoring – automatic function test following power-up; monitoring of all internal system functions
- Display of error codes – on LCD display
- Function control – All functions are visible on the operator panel via LED or display

Structure

- Compact
- Robust – metal housing withstands rough treatment in shop and on site
- Industrial plugs – standardised and sturdy plugs
- Two ground connections – direct coupling of several stud welding machines possible when installed in complex welding systems

Safety

- With integrated mains filter (protection against voltage peaks)
- Optimal for construction sites with large mains voltage fluctuations – use even with critical voltage supply (- 25 % + 20 %)
- Fulfills the requirements according to DIN EN 60974-10: 2008-09 - EMC test
- Fulfills the requirements according to DIN EN 60974-1: 2013-06 - Logged high voltage test
- Logged capacitor forming for quality control of the stud welding capacitors
- Controlled capacitor forming – step-by-step charging of capacitors after long standstill times for longer service life of capacitors
- Retriggering lock-out – prevents welding on a welding element that has already been welded
- Thermal control of inverter-capacitor charging unit and internal temperature of stud welding unit– automatic switch-off in the event of overheating
- Temperature controlled cooling fan – reduces noise and dust in the stud welding unit (greater system reliability)
- Control unit galvanically separated from welding lines – high degree of functional safety
- Optimal cooling air stream – protection of the electronic components against contamination and ideal cooling of the inverter-capacitor charging circuit board for high cycle sequences
- Shock-resistant operation panel – operation panel protected by protruding casing
- Shock-resistant capacitors – capacitors protected by shock proofing elements
- Accessory: Control guard made of acrylic glass (lockable) – prevents damage and unauthorised access

Welding

- Graphic display – clear operator guidance via large LCD display
- Setting of charging voltage in V and charging energy in Ws – when changing the charging voltage, the charging energy is automatically adjusted
- Process sequence control – detection and evaluation of influencing variables of the welding process via the process control (CP); after every welding, a comparison of the reference CP value and the actual values is performed; display of the actual and target value; welding stop when limit values are exceeded can be activated; limit values can be selected in steps; manual entry of CP value possible
- 15 programs can be stored – in every program, the parameters (charging voltage, capacity, CP settings and automatic settings) can be selected digitally via a superior control system and specific to the application
- Remote control of the stud welding machines via standardised RS232 interface possible – the stud welding machines can be controlled directly via the PC or CNC welding systems
- Library function – library with stored welding parameters for different diameter and material combinations for a quick start of the welding process
- User-specific settings– weld counter (display of previously executed welds); menu navigation in various languages; units (metric, imperial); date; time; setting of the transmission rate of the interfaces

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Advantages

Welding

Gun / welding head test – functionality check of the welding guns or the welding heads with a lifting test (check of the lifting function of the gap welding guns and bolt welding heads without contact with the workpiece); functionality check of the welding guns or the welding heads by recording the movement time of the solenoid from triggering to the contact with the workpiece

- Reading out of CP values via standardised RS232 interface – for the output of data such as the date, time and welding parameters of each weld with the superior control system; welding parameters of every weld are logged
- Powerful – built-in power reserves
- Inverter-capacitor charging technology – makes high cycle rates possible
- Trouble-free changing of welding voltage polarity possible by reconnecting welding current and ground cables
- Use of special capacitors (developed for stud welding)
- Capacitance switching – 33 000 μF or 99 000 μF

Suitable stud welding guns/heads

- C 08
- CA 08
- PAH-I
- KAH 412
- KAH 412 LA

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(Technical data may change)



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