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Technical Data Sheet

Monomatic

SmartFuse electrofusion control unit

Scope of application

The electrofusion control units of type **Monomatic** are solely meant for the welding of thermoplastic pipes (e.g. made of PE-HD, PE80, PE100 or PP) when used with electrofusion fittings that have an input voltage of less than 48 V.These devices are conforming to the standards DVS 2208-1 and ISO-12176-2, of which the applicable standards for the electrofusion fittings to be used are derived from.

Input of welding parameters

The electrofusion control units of type Monomatic provide the following means for entering the welding parameters:

SmartFuse-System

By reading out the reference resistor in one of the connector pins of the SmartFuse-fitting the control unit automatically determines the welding parameters for the fitting.

Range of fitting dimensions

The range of fitting dimensions for which an electrofusion control unit can be used depends essentially on the power consumption of the used fittings. Since the power consumption of the fittings is different for different fitting manufacturers, it is not possible to provide a general rule which covers all the possible fitting dimensions. When in doubt, each fitting size has to be checked separately. For electrofusion control units of type Monomatic, when all welding work is performed successively, such that the control unit has pauses in welding that correspond to the preparation time of the next fitting, the following rule applies:

Usage for dimensions from 20 to 355 mm without limitation.

When working with dimensions from **400 mm** on, longer cool-down times must be provided for because otherwise the device might show the "Device too hot" error message. In this case, it is necessary to let the electrofusion control unit cool down before putting it to use again.
Before processing fittings in this dimension range, you have to check that the welding current demand of the fitting does not continuously exceed the output current of the device and that the maximum output current is not exceeded.

The above rule assumes an ambient temperature of 20 °C.

Scope of delivery

	Monomatic		**Enclosed**
	1 ×	Instruction manual	GB001
	1 ×	Adapter 4.0/4.7 mm (optional)	1_2800_002
	1 ×	Transport box	1_2800_005

Technical data

Monomatic				
General				
Output voltage	**[V]**	40 AC		
Data recording		No		
Power (60 % ON time) according to ISO 12176-2		2050 W (55.9 A)		
Operating temperature range	**[°C]**	-10 to +50		
International protection		IP54		
Appliance class		1		
Conformity		CE		
ISO 12176-2 Class - classification		P_2 3 U S_1 F A M		
Input of welding parameters				
	Yes	**No**	**Opt.**	
Barcode with reading pen (optional with scanner)	☐	☒	☐	
SmartFuse	☒	☐	☐	
Manual input of fitting code	☐	☒	☐	
Manual input of welding parameters	☐	☒	☐	**U_{OUT}: 8 to 48 V** **t_{WELD}: 0 to 9999 s**
Manual input of welding parameters	☐	☒	☐	**U_{OUT}: 40 V (preset)** **t_{WELD}: 0 to 9999 s**

Input/Mains		230 V devices	110 V devices
Nominal voltage (tolerance)	**[V]**	230 AC (190 to 300)	110 AC (90 to 150)
Nominal frequency (tolerance)	**[Hz]**	50/60 (40 to 70)	50/60 (40 to 70)
Power factor cos ρ		0.6 to 0.9 (phase-angle control)	0.6 to 0.9 (phase-angle control)
Nominal current	**[A]**	16	40
Power consumption	**[VA]**	3680	3680
Length of cord	**[m]**	4.5	On request
Plug type		Euro Schuko plug	On request
Output			
Output voltage	**[V]**	40 AC	
Output current (max.)		110	
Output current (t → ∞)	**[A]**	30	
Output current (min.)	**[A]**	2	
Energy adjustment		None	
Welding cable length	**[m]**	5, other lengths on request	
Welding cable mounting		Fixed, optional detachable*	
Welding terminals	**[mm]**	4,0 (optional 4.7)*	
Monitoring functions			
Input		Voltage, current, frequency	
Output		Voltage, current, resistance, contact, short circuit	
Other		System, working temperature, service	
Error messages		Plain text, acoustic signal	
Casing/Display			
Material		Steel plate with plastic casing	
Display		4 × 20 Characters (alphanum.), background lighting	
Dimensions, weights and packaging			
Product dimensions L × W × H	**[mm]**	450 × 325 × 380	
Product weight (incl. welding cable)	**[kg]**	18*	
Product weight (excl. welding cable)	**[kg]**	16*	
Packaging dimensions L × W × H	**[mm]**	480 × 445 × 380	
Packaging material		Plastic*	
Packaging type		Box*	
Packaging weight	**[kg]**	4	
Transport weight	**[kg]**	22	

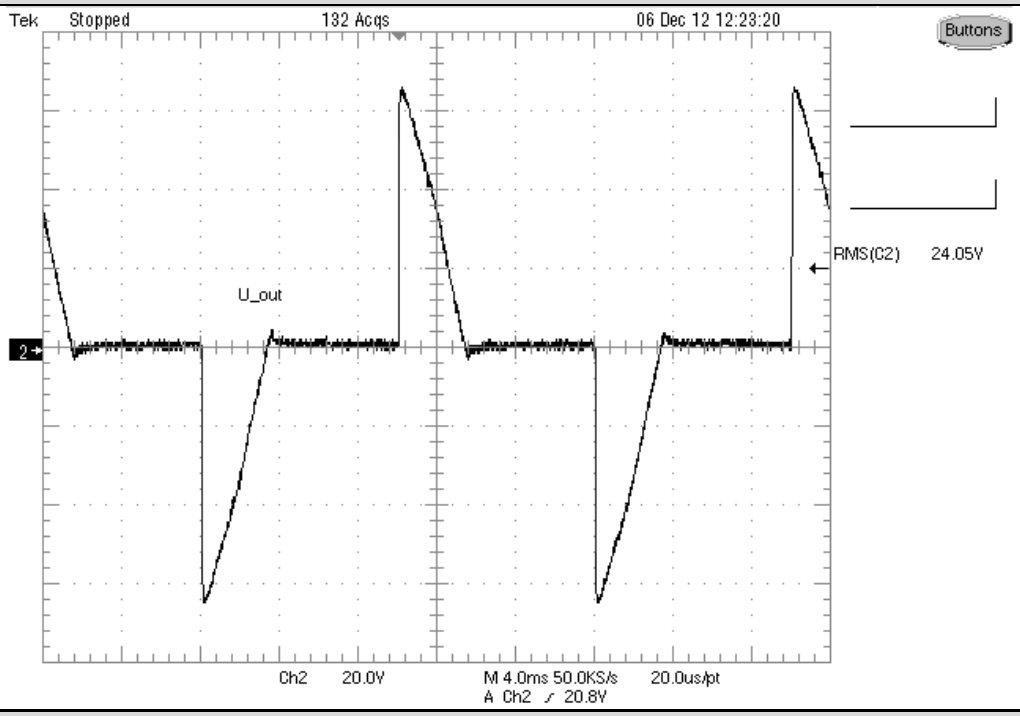
***) The given technical information is valid for the standard setup of the electrofusion control unit.. Depending on the ordered setup there may be variations.**

Data recording

The electrofusion control unit of type **Monomatic** does not generate reports.

Technical file according to ISO 12176-2

Monomatic		
Classification		
Device type		Monomatic
Classification		P_2 3 U S_1 F A M
Simulation curved at 24 V output voltage		



Duty cycle according to ISO 12176-2 at 30 %, 60 % and 100 %, Test time t = 60 minutes

Test time 60 min	Output power at U_{OUT} = 36 V	Output power at U_{OUT} = 40 V	Output current I_{OUT}
30 %	2700 W	3000 W	74.1 A
60 %	2050 W	2250 W	55.9 A
100 %	1600 W	1800 W	44.7 A

Additional Information		
Soft Start		At least 3 seconds (ramp)
Ambient temperature compensation		No
Fitting temperature compensation		No
Data recording		No