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Technical Data Sheet

Monomatic

Monomatic Data USB

Monomatic (Bluetooth)

Monomatic Data USB (Bluetooth)

SmartFuse electrofusion control unit
Universal Electrofusion Control Unit with Bluetooth capability

Scope of application

The electrofusion control units of type Monomatic (Bluetooth) and Monomatic Data USB (Bluetooth) 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, Monomatic (Bluetooth), Monomatic Data USB and Monomatic Data USB (Bluetooth) 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.

Bluetooth functionality

The electrofusion control units of type Monomatic (Bluetooth) and Monomatic Data USB (Bluetooth) feature a built-in Bluetooth LE module. That makes it possible to control and record the welding procedure with the PFS app "ElectroFusion Studio". The app for smartphones and tablets is available for Android in the Google Play Store and for iOS in the Apple App Store. When using Bluetooth, the electrofusion control unit can only be used together with this app.

Attention!

To be able to use the app with the electrofusion control unit it is mandatory to have a registered account. Please ask your distributor.

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, Monomatic (Bluetooth), Monomatic Data USB and Monomatic Data USB (Bluetooth), 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:

Welding time	Requirements
20 s to 600 s	Usable without restrictions.
750 s to 900 s	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.
>900 s	**Only couplers that have a welding time of 900 s or below can be welded.**

Attention!

For welding of couplers in with a welding time of 900 s a stable and continuous supply voltage of 230 V is mandatory. When using a generator, it must be set to a no load voltage of between 240 V and 260 V.

The electrofusion control units of type Monomatic, Monomatic (Bluetooth), Monomatic Data USB and Monomatic Data USB (Bluetooth) can only be used together with SmartFuse-capable fittings and couplers.

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 / Monomatic (Bluetooth)		**Enclosed**
	1 ×	Instruction manual	EN001
	1 ×	Adapter 4.0/4.7 mm (optional)	
	1 ×	Transport box	1_2800_005

	Monomatic Data USB / Monomatic Data USB (Bluetooth)		**Enclosed**
	1 ×	Instruction manual	EN001
	1 ×	USB memory stick	5_5001_512
	1 ×	Adapter 4.0/4.7 mm (optional)	
	1 ×	Accessory bag	1_2800_002
	1 ×	Transport box	1_2800_005

A Flightcase is available as alternative to the plastic box.

Technical data

	Monomatic / Monomatic (Bluetooth) **Monomatic Data USB / Monomatic Data USB (Bluetooth)**			
General				
Output voltage	**[V]**		40 AC	
Data recording			Monomatic: No Monomatic (Bluetooth): No Monomatic Data USB: Yes Monomatic Data USB (Bluetooth): Yes	
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 Monomatic Monomatic (Bluetooth)			P_2 3 U S_1 F A M	
ISO 12176-2 Class - classification Monomatic Data USB Monomatic Data USB (Bluetooth)			P_2 3 U S_1 F A D M	
Input of welding parameters				
	Yes	**No**	**Opt.**	
Barcode with reading pen (scanner optional)	☐	☒	☐	
SmartFuse	☒	☐	☐	
Manual input of the barcode digits.	☐	☒	☐	
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	35
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	
Welding terminals	**[mm]**	Optional 4.0, 4.7 or universal terminals for 4.0 und 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, alphanumeric, 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]**	470 × 440 × 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 Monomatic

The electrofusion control units of type Monomatic do not generate reports.

Data recording Monomatic (Bluetooth)

When using the PFS app and the connection via Bluetooth, the electrofusion control units of type Monomatic (Bluetooth) transfer reports to the connected smartphone or tablet. An internal memory is not available in the electrofusion control unit.

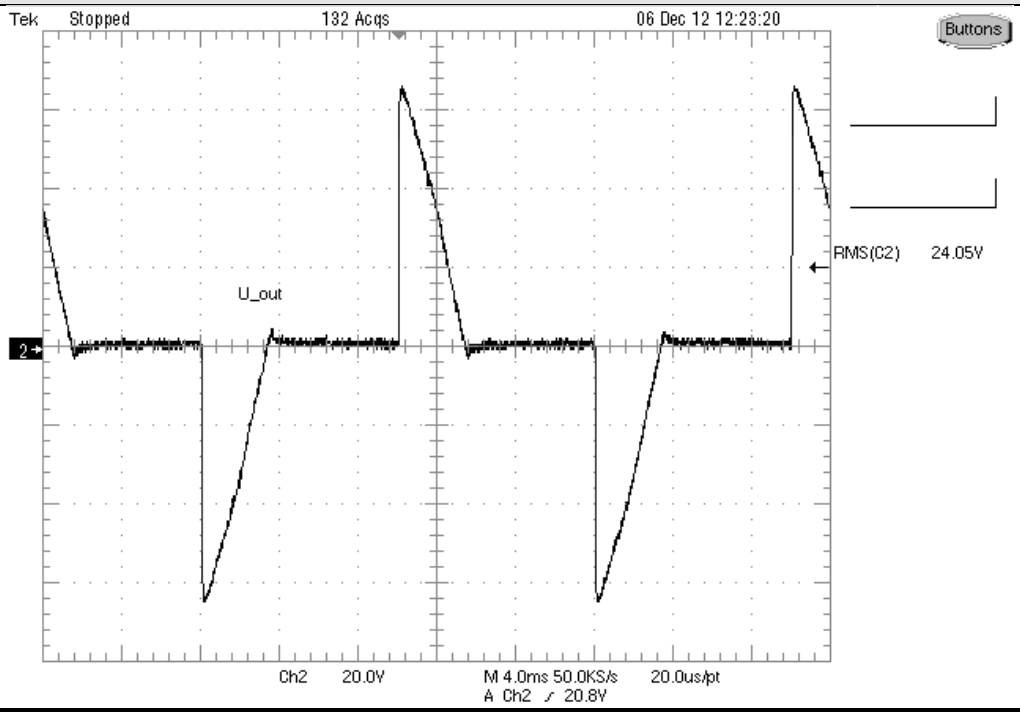
Data recording Monomatic Data USB and Monomatic Data USB (Bluetooth)

The electrofusion control units of type Tiny Data M(F) USB (Bluetooth) provide data recording for approx. 500 welding cycles.

	Monomatic Data USB **Monomatic Data USB (Bluetooth)**	
Data recording		
Number of reports		Approx. 500
Interface		USB (USB memory stick, USB printer)
Data format		PDF, CSV
Recorded data		
General data		Time, date, report number, ambient temperature
Fusion data		Voltage, current, energy, nominal and actual welding time, mode, resistance, error messages with 10 voltage and current values
Device data		Serial number, inventory number, date of last service, working hours, system configuration
Additional functions		
Output options		Whole memory
Job code input/selection		Manual, internal list of job numbers for selection

Technical file according to ISO 12176-2

	Monomatic **Monomatic (Bluetooth)** **Monomatic Data USB** **Monomatic Data USB (Bluetooth)**	
Classification Monomatic / Monomatic (Bluetooth)		
Device type		Monomatic Monomatic (Bluetooth)
Classification		P_2 3 U S_1 F A M
Classification Monomatic Data USB / Monomatic Data USB (Bluetooth)		
Device type		Monomatic Data USB Monomatic Data USB (Bluetooth)
Classification		P_2 3 U S_1 F A D 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 Monomatic Monomatic (Bluetooth)	No
Data recording Monomatic Data USB Monomatic Data USB (Bluetooth)	Yes
Bluetooth module Monomatic Monomatic Data USB	No
Bluetooth module Monomatic (Bluetooth) Monomatic Data USB (Bluetooth)	Bluetooth LE