

Operation instructions • english  
Gebrauchsanweisung • deutsch  
Gebruiksaanwijzing • nederlands  
Manuel d'utilisation • français

1923421E  
Pro MXE Automotive  
0445

# PRO MXE

PRO MXE<sup>MLS™</sup> AUTOMOTIVE



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# 1. PREFACE

## 1.1. INTRODUCTION

Congratulations on having purchased this product. Properly installed Kemppi products should prove to be productive machines requiring maintenance at only regular intervals. This manual is arranged to give you a good understanding of the equipment and its safe operation. It also contains maintenance information and technical specifications. Read this manual from front to back before installing, operating or maintaining the equipment for the first time. For further information on Kemppi products please contact us or your nearest Kemppi distributor. The specifications and designs presented in this manual are subject to change without prior notice.

In this document, for danger to life or injury the following symbol is used:

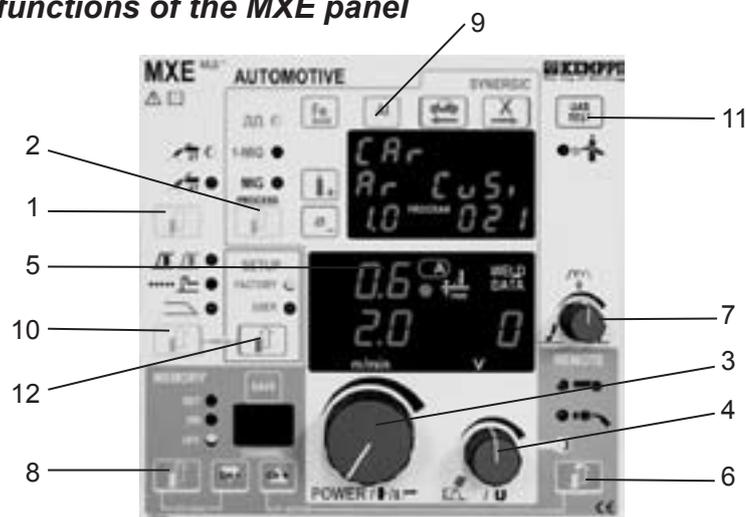


Read the warning texts carefully and follow the instructions. Please also study the Operation safety instructions and respect them when installing, operating and servicing the machine.

## 1.2. PRODUCT INTRODUCTION

MXE Automotive is a panel combined with Promig Automotive wire feeder. The functions of MXE Automotive panel are versatile and they are planned especially for car industry. This manual describes installation, functions and use of the ProMXE Automotive panel. Installation and functions of other units of welding set such as power source, cooling unit and wire feeder, are described in manuals and installation instructions delivered with those units. This equipment's electromagnetic compatibility (EMC) is designed for use in an industrial environment. Class A equipment is not intended for use in residential location where the electrical power is provided by the public low-voltage supply system.

### 1.2.1. Main functions of the MXE panel



- Selection of welding process: MIG 2T, MIG 4T (1)
- Selection of MIG process (2): MIG/MAG, synergic MIG/MAG, synergic PulsedMIG
- Material, gas and wire diameter selections for synergic welding (9)
- Controls and displays of main welding parameters: wire feed speed or MMA current (3), voltage (4), welding dynamics (7), plate thickness display (5) in synergic programs
- Selection for controls (6): local controls, gun remote control unit, remote control unit
- Storing of welding situations (MIG/MAG, PulsedMIG) (8): 20 channels to store welding parameters
- Special features of MIG/MAG and PulsedMIG processes selected from panel (10): creep start, hot start, spot weld timer, crater filling
- Checking the shielding-gas flow
- Parameter presettings of MIG/MAG, 1-MIG and PulsedMIG welding can be changed by using SETUP function (12)

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## 1.3. OPERATION SAFETY

Please study these Operation safety instructions and respect them when installing, operating and servicing the machine.

### ***Welding arc and spatters***

Welding arc hurts unprotected eyes. Be careful also with reflecting arc flash. Welding arc and spatter burn unprotected skin. Use safety gloves and protective clothing.

### ***Danger for fire or explosion***

Pay attention to fire safety regulations. Remove flammable or explosive materials from welding place. Always reserve sufficient fire-fighting equipment on welding place. Be prepared for hazards in special welding jobs, eg. for the danger of fire or explosion when welding container type work pieces. Note! Fire can break out from sparks even several hours after the welding work has been finished!

### ***Mains voltage***

Never take welding machine inside a work piece (eg. container or truck). Do not place welding machine on a wet surface. Always check cables before operating the machine. Change defect cables without delay. Defect cables may cause an injury or set out a fire. Connection cable must not be compressed, it must not touch sharp edges or hot work pieces.

### ***Welding power circuit***

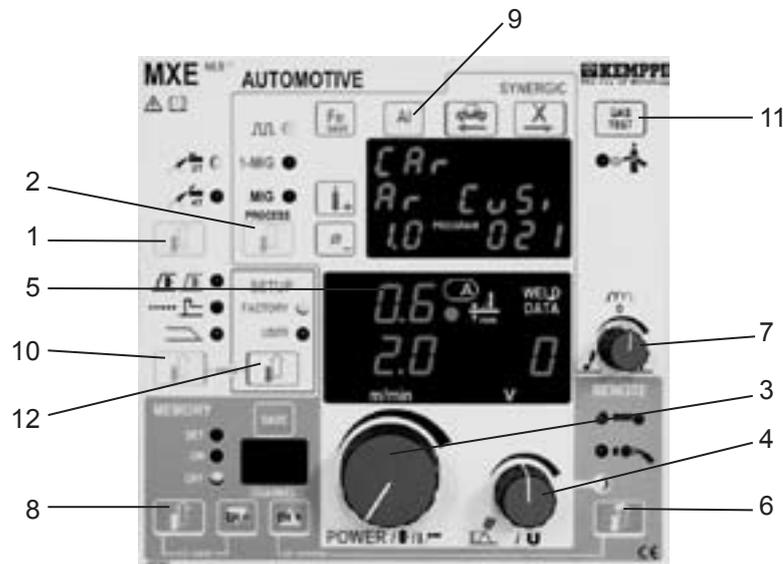
Isolate yourself by using proper protective clothing, do not wear wet clothing. Never work on a wet surface or use defect cables. Do not put MIG-gun or welding cables on welding machine or on other electric equipment. Do not press MIG-gun switch, if the gun is not directed towards a work piece.

### ***Welding fumes***

Take care that there is sufficient ventilation during welding. Take special safety precautions when welding metals which contain lead, cadmium, zinc, mercury or beryllium.

## 2. INSTALLATION

### 2.1. MXE QUICK GUIDE



#### 2.1.1. MIG/MAG welding

- Select MEMORY OFF (8)
- Select FACTORY (12)
- Select MIG 2T or MIG 4T (1)
- Select MIG (2)
- If needed, select gun or remote control (6)
- If needed, select creep start (10)
- Adjust wire feed speed (3), welding voltage (4) and welding dynamics as needed (7)  
Weld and adjust wire speed and voltage when necessary from controls 3 and 4.

#### 2.1.2. Synergic MIG/MAG welding, 1-MIG

With the synergic MIG/MAG welding the power control is easy. Welding power is controlled from one control (3) from minimum values to maximum values and the arc is kept stable. Synergic MIG/MAG welding requires selection of a correct material curve before welding.

- Select MEMORY OFF (8).
- Select FACTORY (12).
- Select MIG 2T or MIG 4T (1).
- Select 1-MIG (2).
- Select material curve from selection block 9 by selecting filler wire material, shielding gas and filler wire diameter.
- If needed, select remote or gun control (5).
- If needed, select creep start (10).
- You can, if needed, select hot start and/or crater filling function (10).
- Adjust welding power (3), arc length (4) and welding dynamics as needed (7). In welding power control see also display for guidelines of plate thickness (5).  
Weld and adjust welding power and arc length when necessary from controls 3 and 4.

### 2.1.3. Synergic PulsedMIG welding



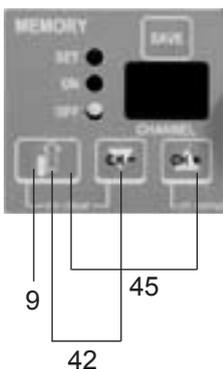
Quick pulsing of the power source in synergic PulsedMIG welding produces a welding process with controlled and spatterfree filler material transfer into weld piece. Welding power is controlled from one control (4) from minimum values to maximum values and the arc is kept stable. Synergic PulsedMIG welding requires selection of a correct material curve before welding.

- a) Select MEMORY OFF (8).
- b) Select FACTORY (12).
- c) Select MIG 2T or MIG 4T (1).
- d) Select Pulsed MIG (2).
- e) Select material curve from selection block 9 by selecting filler wire material, shielding gas and filler wire diameter.
- f) If needed, select remote or gun control (6).
- g) If needed, select creep start (10).
- h) You can if necessary select hot start or/and crater filling function (10).
- i) Adjust welding power (3) and arc length (4) as needed. In welding power control see also display for guidelines of plate thickness (5).
- j) Weld and adjust welding power and arc length when necessary from controls 3 and 4.
- k) "Top Current", control of pulse height in SETUP.

### 2.1.4. Use of memory channels

The MXE panel has 20 memory channels into which you can store MIG/MAG, 1-MIG and PulsedMIG welding situations. Panel selections as well as adjustment potentiometer values are stored into memory. It is not possible to store MMA welding values into memory channels.

#### **Welding situation storing into memory, SET + SAVE**



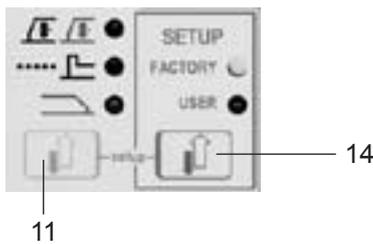
- a) Select settings and control values with your MIG process; MIG, 1-MIG or pulsed MIG.
- b) Select SET (9).
- c) Select the memory channel with CH- and CH+ keys.
- d) Weld and adjust values if needed.
- e) Store the welding situation with SAVE key.
- f) By pressing the keys simultaneously (45), it is possible to go directly from OFF mode to ON mode and store the currently welded values without repeating the above steps a - e.
- g) By pressing the keys simultaneously (42), you go over from ON mode directly to OFF mode.

#### **Use of stored welding situations, ON**

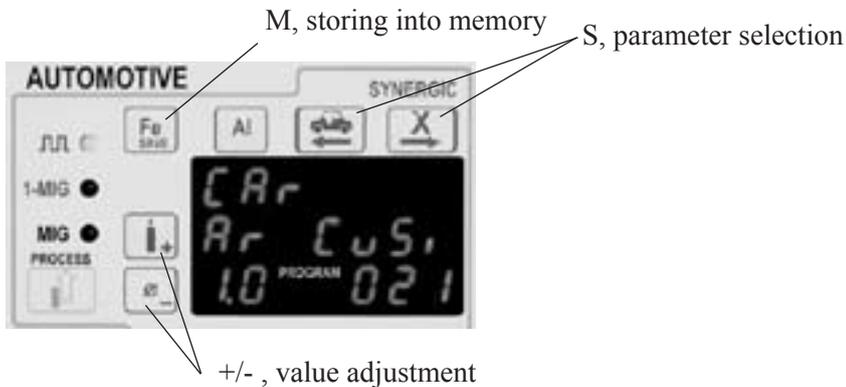
- a) Select ON (8).
- b) Select the memory channel with CH- and CH+ keys.
- c) Weld and carry out if necessary fine control for voltage/arc length from panel potentiometer (4) or from remote control in case you have selected remote control mode (6).

### 2.1.5. SETUP function

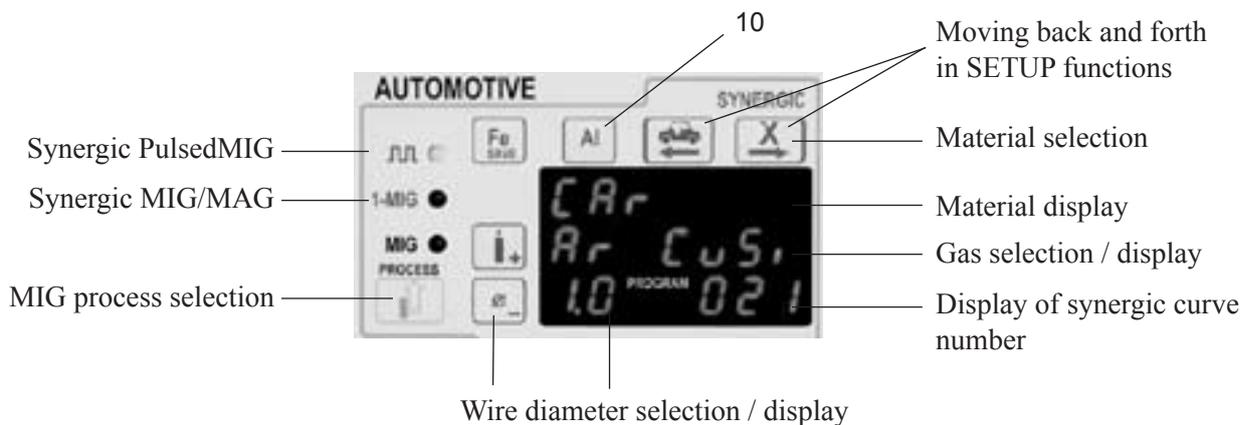
With SETUP function users can change many of such MIG, 1-MIG and PulsedMIG welding parameters, for which there is no own adjustment on the panel. They can also be changed in ON and SET mode of the memory function. Such parameters are for example pre and post gas times and hot-start. With SETUP key (14) user can choose to use either factory parameters (FACTORY) or parameter values changed by himself (USER). You can change the parameters in change state. To go over to change state and return from it is done by pressing two keys simultaneously (11 and 14), see picture. Control panel keys, which have function in SETUP mode are marked with blue color. Functions of SETUP mode: S = parameter selection, +/- = value adjustment up/down, M = parameter value storing into memory.



Activation of change state and return to welding state by pressing two keys simultaneously (11 and 14).



### 2.1.6. 1-MIG and PulsedMIG synergic curves



The MXE panel includes factory curves/programs for synergic welding of the most common materials. The factory curve is selected from selection block (10), where you first select material, then gas and after that wire diameter, all these depending on filler wire and shielding gas type you are using. Material selection is divided into 4 groups. Fe group: iron-based filler wires, Al group: aluminium-based filler wires, Ss group: stainless filler wires and X group: special wires. Synergic welding functions are marked with red colour. Enclosed tables for 1-MIG and PulsedMIG synergic curves:

## MEMORY CHANNEL PRESETS

Wire: CuSi 3    Ø 1.0 mm  
 Gas: Argon

Program number	Process	Wire feed speed	Spot time
1.	1- MIG	2.4 m/min	1.5 s
2.	1- MIG	5.8 m/min	1.0 s
3.	Puls.MIG	2.3 m/min	1.0 s
4.	Puls.MIG	4.3 m/min	1.0 s
5.	Puls.MIG	2.5 m/min	

## SYNERGIC 1-MIG PROGRAMS

N:o	Wire diameter	Material display	AWS	Gas display	Wire feed range
<b>Fe group</b>					
101	0.8 mm	Fe	ER 70S	Ar+18%CO <sub>2</sub>	2.4 - 18.0 m/min
103	1.0 mm	Fe	ER 70S	Ar+18%CO <sub>2</sub>	3.2 - 18.0 m/min
<b>Al group</b>					
301	1.0 mm	AlMg 5	ER 5356	Ar	5.0 - 18.0 m/min
303	1.2 mm	AlMg 5	ER 5356	Ar	4.0 - 18.0 m/min
321	1.0 mm	AlSi 5	ER 4043	Ar	4.5 - 18.0 m/min
323	1.2 mm	AlSi 5	ER 4043	Ar	4.0 - 15.9 m/min
341	1.0 mm	AlSi 12	ER 4047	Ar	4.5 - 18.0 m/min
343	1.2 mm	AlSi 12	ER 4047	Ar	4.0 - 15.9 m/min
<b>X group</b>					
201	0.8 mm	Ss 316	ER 316LSi	Ar+2%CO <sub>2</sub>	3.2 - 18.0 m/min
203	1.0 mm	Ss 316	ER 316LSi	Ar+2%CO <sub>2</sub>	2.7 - 18.0 m/min
402	0.8 mm	CuSi	ER CuSi 3	Ar	3.8 - 18.0 m/min
406	1.0 mm	CuSi	ER CuSi 3	Ar	2.0 - 18.0 m/min
408	0.8 mm	CuAl	ER CuAl 8	Ar	3.8 - 18.0 m/min
409	1.0 mm	CuAl	ER CuAl 8	Ar	2.7 - 18.0 m/min
<b>Automotive group</b>					
001	1.0 mm	CuSi	ER CuSi3-A	Ar	2.0 - 2.6 m/min
002	1.0 mm	CuSi	ER CuSi3-A	Ar	2.4 - 3.1 m/min
003	1.0 mm	CuSi	ER CuSi3-A	Ar	3.0 - 3.6 m/min
004	1.0 mm	CuSi	ER CuSi3-A	Ar	3.5 - 4.1 m/min
005	1.0 mm	CuSi	ER CuSi3-A	Ar	4.0 - 4.6 m/min
006	1.0 mm	CuSi	ER CuSi3-A	Ar	4.5 - 5.1 m/min
007	1.0 mm	CuSi	ER CuSi3-A	Ar	5.0 - 5.5 m/min
008	1.0 mm	CuSi	ER CuSi3-A	Ar	5.5 - 6.0 m/min
009	1.0 mm	CuSi	ER CuSi3-A	Ar	6.0 - 6.5 m/min
010	1.0 mm	CuSi	ER CuSi3-A	Ar	6.4 - 7.0 m/min
011	1.0 mm	CuSi	ER CuSi3-A	Ar	6.9 - 7.6 m/min
012	1.0 mm	CuSi	ER CuSi3-A	Ar	7.4 - 8.1 m/min

## PULSED MIG PROGRAMS

N:o	Wire diameter	Material display	AWS	Gas display	Wire feed range
<b>Fe group</b>					
501	0.8 mm	Fe	ER 70S	Ar+18%CO <sub>2</sub>	3.1 - 18.0 m/min
503	1.0 mm	Fe	ER 70S	Ar+18%CO <sub>2</sub>	1.7 - 14.0 m/min
<b>Al group</b>					
701	1.0 mm	AlMg 5	ER 5356	Ar	3.2 - 18.0 m/min
703	1.2 mm	AlMg 5	ER 5356	Ar	2.2 - 15.9 m/min
721	1.0 mm	AlSi 5	ER 4043	Ar	2.4 - 18.0 m/min
723	1.2 mm	AlSi 5	ER 4043	Ar	1.7 - 13.0 m/min
731	1.0 mm	AlSi 12	ER 4047	Ar	2.4 - 18.0 m/min
733	1.2 mm	AlSi 12	ER 4047	Ar	1.7 - 13.0 m/min
<b>X group</b>					
601	0.8 mm	Ss 316	ER 316LSi	Ar+2%CO <sub>2</sub>	2.7 - 18.0 m/min
603	1.0 mm	Ss 316	ER 316LSi	Ar+2%CO <sub>2</sub>	1.8 - 15.9 m/min
804	0.8 mm	CuSi	ER CuSi 3-A	Ar	3.7 - 13.0 m/min
805	1.0 mm	CuSi	ER CuSi 3-A	Ar	1.6 - 12.0 m/min
806	1.0 mm	CuSi	ER CuSi 3-A	Ar+2%CO <sub>2</sub>	1.6 - 12.0 m/min
807	1.0 mm	CuAl	ER CuAl 8	Ar	3.0 - 11.9 m/min
808	0.8 mm	CuAl	ER CuAl 8	Ar	2.4 - 13.0 m/min
<b>Automotive group</b>					
021	1.0 mm	CuSi	ER CuSi3-A	Ar	2.0 - 2.6 m/min
022	1.0 mm	CuSi	ER CuSi3-A	Ar	2.4 - 3.1 m/min
023	1.0 mm	CuSi	ER CuSi3-A	Ar	3.0 - 3.6 m/min
024	1.0 mm	CuSi	ER CuSi3-A	Ar	3.5 - 4.1 m/min
025	1.0 mm	CuSi	ER CuSi3-A	Ar	4.0 - 4.6 m/min
026	1.0 mm	CuSi	ER CuSi3-A	Ar	4.5 - 5.1 m/min
027	1.0 mm	CuSi	ER CuSi3-A	Ar	5.0 - 5.5 m/min
028	1.0 mm	CuSi	ER CuSi3-A	Ar	5.5 - 6.0 m/min
029	1.0 mm	CuSi	ER CuSi3-A	Ar	6.0 - 6.5 m/min
030	1.0 mm	CuSi	ER CuSi3-A	Ar	6.4 - 7.0 m/min
031	1.0 mm	CuSi	ER CuSi3-A	Ar	6.9 - 7.6 m/min
032	1.0 mm	CuSi	ER CuSi3-A	Ar	7.4 - 8.1 m/min

## 3. MXE FUNCTIONS

### 3.1. WELDING PROCESS SELECTION



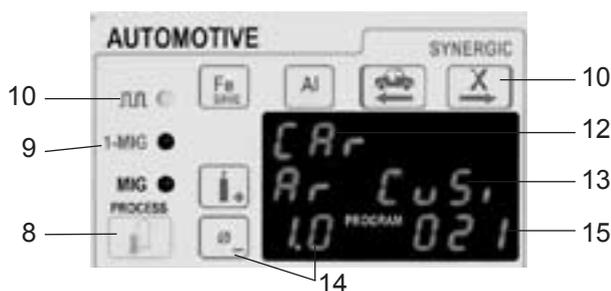
1. MIG welding with 2 sequence start switch function, MIG 2T.
2. MIG welding with 4 sequence start switch function, MIG 4T.
3. Selecting key for MIG 2T / MIG 4T.

### 3.2. MIG PROCESS SELECTION



4. Synergic PulsedMIG welding: Welding process where by pulsing the welding current is produced a controlled, spatterfree filler material transfer into weld piece. Pulse parameters of power source are automatically changed according to wire feed speed (synergy). This enables welding power level control by using only one control knob. Dependence of pulse parameters on wire feed speed is defined by selecting synergic curve for filler wire and gas you are using.
5. Synergic MIG/MAG welding (1-MIG): MIG welding, where other parameter values are automatically changed according to wire feed speed. This enables welding power level control by using only one control knob. Dependence of welding parameters on wire feed speed is defined by selecting synergic curve for filler wire and gas you are using.
6. MIG/MAG welding with independent wire feed speed and voltage controls.
7. MIG process selection key; MIG/MAG, 1-MIG, PulsedMIG

### 3.3. 1-MIG / PULSEDMIG SYNERGIC CURVES SELECTION



8. MIG process selection key.
9. Indicator LED of synergic MIG/MAG welding.
10. Indicator LED of synergic PulsedMIG welding.
11. Selection keys of material groups:  
Fe: iron-based filler wires, also flux cored filler wires.  
Al: aluminium-based filler wires, for example AlMg, AlSi.  
Ss: stainless filler wires, for example 316L.  
X: special wires, for example CuSi3.
12. Display for selected filler wire material.
13. Selection and display for shielding gas you are using.
14. Selection key and display for wire diameter.
15. Program numerical display.



**Note! Synergic functions are marked with red colour.**

### 3.3.1. 1-MIG or PulsedMIG synergic curve is selected as follows

- Select 1-MIG or PulsedMIG.
- Select material group. You get from the material group in question the curve with which was started last. If the selected material is not the right one, you can browse materials in the material group by re-pressing the material group selection key.
- Select shielding gas. Only gas selections possible for the material in question are displayed.
- Select wire diameter. Only diameters possible for the filler wire/gas selection in question can be selected. The unit remembers (MEMORY) last selections from each material group (material, gas, wire diameter) separately at 1-MIG and PulsedMIG.

### 3.4. BASIC CONTROLS, BASIC DISPLAYS, WELD DATA



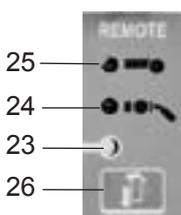
- Control for wire feed speed in MIG/MAG, welding power in 1-MIG and PulsedMIG, and welding current in MMA.
- Display for wire feed speed or MMA current.
- Informative plate thickness display in 1-MIG and PulsedMIG for horizontal vertical fillet weld. During welding true welding current display.
- Control for welding voltage (MIG/MAG), or arc length (1-MIG and Pulsed MIG).
- Display of welding voltage set value with MIG/MAG and 1-MIG. Set value display for arc length with Pulsed-MIG, range -9...0...9. During welding pole voltage of power source is displayed. Display is also used as display of welding dynamics control, -9...0...9.
- Pressing the WELD DATA key restores to displays those values of wire feed speed, welding current and welding voltage which were used when welding was stopped.

### 3.5. WELDING DYNAMICS CONTROL



- Control for MIG/MAG, 1-MIG and MMA welding dynamics. Control value -9...0...9 is displayed in display 21. Welding dynamics control influences welding stability and spatter amount. Zero position is recommended as basic setting. Values -9...-1, softer arc in order to reduce spatter amount. Values 1...9, harder arc in order to increase stability, and when using 100 % CO<sub>2</sub> shielding gas in steel welding.

### 3.6. SELECTIONS FOR MAIN CONTROLS

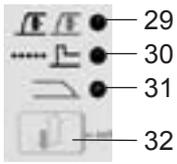


- Local control, main controls are made from panel potentiometers 17 and 20.
- Gun control, wire feed speed or welding power controls are made from control unit RMT10, which is mounted to PMT MIG gun. Welding voltage or arc length controls are made from panel potentiometer 20.
- Remote control, main controls are made from control unit R20 connected to main wire feeder or from PROMIG 100 sub-feeder.
- Control selection key.



**Note! You cannot select remote control mode or gun remote control mode if the control unit is not connected to the welding equipment.**

### 3.7. MIG AUXILIARY FUNCTIONS



29. Creep start, MIG/MAG, 1-MIG, PulsedMIG: Creep start is used for smooth start for example in welding with high wire feed speeds. In start the wire feed speed is lower than set value until the wire touches the weld piece and current starts flowing. Note! If the wire does not touch the weld piece within 0.6 seconds, wire feed speed goes over to set value. When needed you can change lower wire feed speed level on creep start and also wire feed speed upslope with SETUP functions.

30. Hot start, spot weld timer:

Hot start function is used to reduce start faults in welding of well heat conductive materials such as aluminium. Hot start is in use with 1-MIG and PulsedMIG. In 4T mode hot start the time is set with switch function (see picture), in 2T mode the time is set with the parameter of SETUP function. Hot start level can be changed with SETUP function when needed.

Spot weld timer is normally switched off. The timer is switched on with SETUP function by setting the spot weld time as different from zero, and correspondingly switched off by setting the spot weld time as zero. Spot weld time is switched on with 2T switch function, in which case hot start is selected (the LED is on) but not in use when spot weld time is over zero. Hot start has to be selected in order to use spot weld. Current during spot weld time is the same as hot start current.

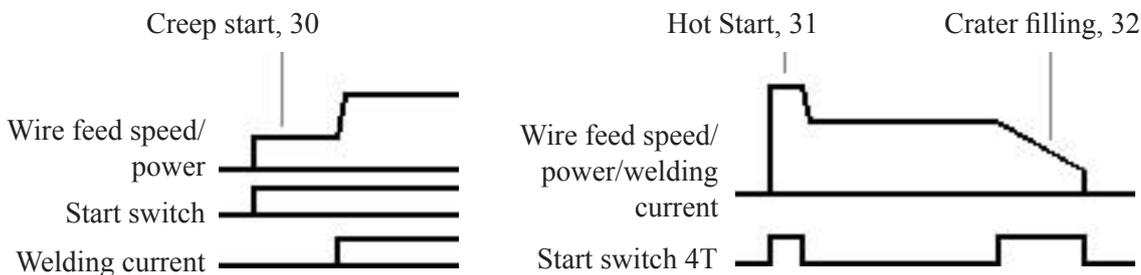
31. Crater filling, 1-MIG and PulsedMIG:

Crater filling is used to reduce weld defects caused by end crater. With 4T switch function at the weld end you get, during pressing gun's start switch, a steplessly decreasing welding power, which fills end crater in a controlled way. With 2T mode the decreasing time is constant. Decreasing speed of welding power and decreasing time can be changed with SETUP function when needed.

32. Selecting key for MIG auxiliary functions.

Auxiliary functions can be switched on independently from each other, either together or separately both with 4T and 2T.

**Note! With longer creep start times creep start and hot start cannot be switched on at the same time.**



### 3.8. TESTING THE GAS FEED



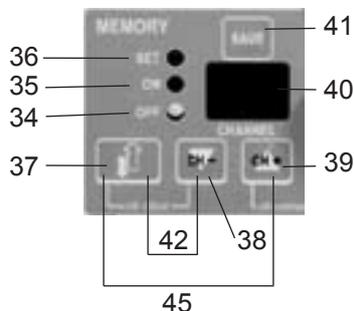
By pressing the gas-feed test key, you can make the shielding gas flow without starting the power source or the wire feed. This enables the measuring of the gas flow with an external measuring device.

The gas flow will cease when you press the same key again or the gun trigger. If you do not press the key again, gas flow will cease automatically in 20 seconds.

### 3.9. MXE MEMORY CHANNELS, MEMORY

The MXE panel has 20 memory channels into which you can store MIG/MAG, 1-MIG and PulsedMIG welding situations. Control potentiometer values as well as function selections are stored into memory. You cannot store MMA welding values into memory channels.

#### 3.9.1. Following parameters are stored into memory



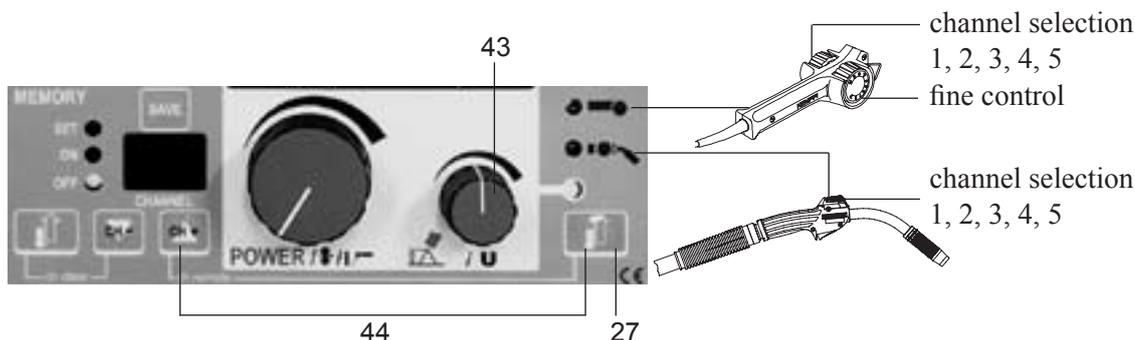
- Wire feed speed and welding voltage (MIG/MAG)
- Welding power and arc length (1-MIG, PulsedMIG)
- Synergic curve selections (1-MIG, PulsedMIG)
- MIG dynamics (MIG/MAG, 1-MIG)
- MIG 2T / MIG 4T selections
- Creep start selection
- Hot start and crater filling selections (1-MIG, PulsedMIG)
- FACTORY / USER parameter selections

Operation modes of memory function are selected with key 37. Operation modes are OFF (34): normal welding without memory functions. ON (35): welding with welding values stored into memory channels. SET (36): mode where you can store welding values into memory channels by pressing on memory key SAVE (41). Memory channel is selected by CH- (38) and CH+ (39) keys. Number of selected channel is displayed in screen 40.

In SET mode (36) blinking indicator LED shows that no welding values are stored into the channel in question. When needed, you can clear the memory channel by simultaneous pressing (42) of keys for mode selection (37) and CH- (38). Before clearing you can check the values stored into channel by going over for a moment to ON state (35).

In ON state you can select only those channels with stored values. Fine control of stored channels for welding voltage (MIG/MAG) or for arc length (1-MIG, PulsedMIG) is made from potentiometer 43. During welding you can change channels if the MIG process (MIG, 1-MIG, PulsedMIG) remains the same. Also 1-MIG and PulsedMIG synergic curve selection should be the same in the channels in question.

Selection of memory channels 1-5 can be transferred to remote control unit R20, connected to the PROMIG or to gun remote control unit RMT10 of the PMT MIG gun. Change-over to remote control of channels is made in ON state by simultaneous pressing (44) of CH+ (39) and control selection (27) keys. When using R20 control unit both channel selection and fine control are transferred to potentiometers of the control unit. When using RMT10 control unit the channel selection is transferred to RMT10 and fine control remains in the panel potentiometer (43). Remote selection of memory channels is indicated by blinking remote control or gun remote control indicator LEDs. Exit from remote control in the same way by simultaneous pressing (44). You can go directly from OFF to SET mode by simultaneous pressing (45) of keys 37 and 39 (= direct storing of currently welded values into memory). You can go directly from ON to OFF mode by simultaneous pressing (42) of keys 37 and 38.



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### 3.10. PRESETTINGS OF WELDING PARAMETERS, SETUP

With SETUP function the user can change such parameters of MIG, 1-MIG and PulsedMIG, for which there is no own control on the panel. Such parameters are for example pre-, post gas time and hot start. Parameters are different for every MIG process, which means that you can set independently your own parameters for MIG, 1-MIG and PulsedMIG. SETUP keys are marked with blue colour.

***Modes of SETUP function:***

- a) FACTORY mode: Use the so called factory settings of welding parameters.
- b) USER mode: Use welding parameters changed by the user.
- c) SETUP change mode: Mode in which parameters are changed and stored into memory.

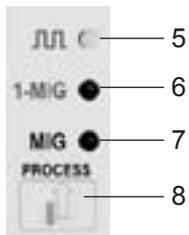
### 3.10.1. SETUP functions in MXE

	Name in display	MIG/ MAG	1-MIG	Pulsed- MIG	Factory value	Explanation
Pre gas time 0-9.9 s	PrEGAS	X	X	X	0	Gas flow before welding, works with 2T
Post gas time 0-9.9 s	POStGAS	X	X	X	1.0	Gas flow after welding
Creep start 10-99 %	CrEEP S	X	X	X	50%	% of wire feed speed
Hot start -50...0...+70%	HOt-StA		X	X	40%	% of welding power, -50% is cold and +70% is hot
Hot start 2T (* 0...9,9 s	Hot-2tt		X	X	1.2 s	Adjustment of Hot start time with 2T
Spot welding (** 0.0 ... 9.9 s	SPOt-2t		X	X	0.0 s	Spot welding in use, when Hot start is selected and SPOt-2t is 0.1 ... 9.9 s. Welding power is same as Hot start's.
Creep start upslope 0...99	UPSLOPE	X	X	X	0	Rising time to welding power, 1 is shorter, 99 is longer
Crater filling 1...99	CrAtErF		X	X	15	Fall time to crater slope, 1 is shorter, 99 is longer
Crater slope 0...99%	CrAtESL		X	X	0	End level of welding power, 1% min current, 99% max current
Start current -9...0...+9	StArt C	X	X	X	0	Length of start pulse
Top current -10...+15%	top-CUr			X	0	MXE-function, adjustment of pulse current
Post current time -99...0...+99	POStCUr	X	X	X	0	Length of wire after stop welding e.g. Al <0, Fe > 0
Control range of arc length -50...0...99%	ArCLEnG		X	X	0	Expands arc length range (knob)
Calibration voltage 0...9.9 V	CAL		X	X	1.4	1.4 is for general use, position of arc length range can be moved within 0...9.9V
Restoring of factory settings	rESToRE FAC ALL	X	X	X		Restores factory settings to User parametres

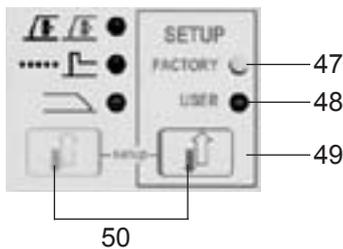
(\* Since Promig program version 0A5

(\*\* Since Promig program version 0A6

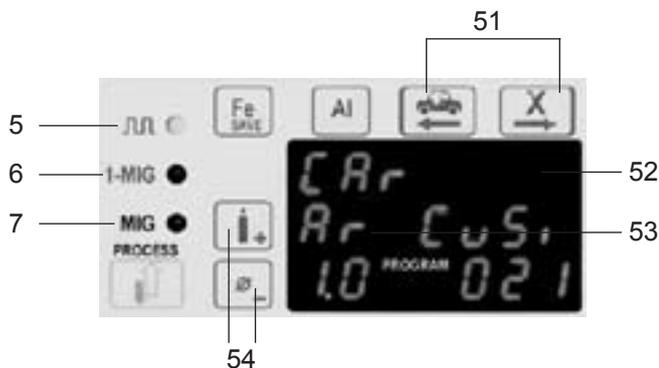
### 3.10.2. Changing of parameters in **SETUP** change mode



- a) Select the MIG process, MIG/MAG (7), 1-MIG (6) or PulsedMIG (5), the parameters of which you want to change.
- b) Go to SETUP change state by simultaneous pressing 50 (keys 33 and 49).
- c) Select the parameter to be adjusted with key 51. Parameter names are to be seen in display 52 and parameter value in display 53.
- d) Adjust parameter value upwards (+) or downwards (-) with keys 54.
- e) Store the adjusted value into memory with key 55.



- f) Factory value of selected parameter can be checked by going over briefly to FACTORY mode 47, in which case factory value of parameter in question is displayed in 53.
- g) Factory values of all parameters for selected MIG process can be copied as USER parameter values by selecting as parameter RESTORE FAC ALL and by pressing on memory storing key 55.
- h) Go back to weld mode by another simultaneous pressing 50 (keys 33 and 49).



### 3.10.3. Storing **SETUP** parameters into **MXE** memory channels

- a) Select the settings and control values with the MIG process you are using, MIG/MAG (7), 1-MIG (6) or PulsedMIG (5).
- b) Select SET mode of memory function by pressing key 37.
- c) Choose the memory channel by pressing CH- (38) or CH+ (39).
- d) Store the settings by pressing the SAVE key (41). If the memory channel is empty (the LED is blinking), the SETUP parameters cannot be stored in memory function.
- e) Go over to SETUP change state by simultaneous pressing (50) of keys 33 and 49.
- f) Select the parameter to be controlled with key 51.
- g) Adjust the parameter value up (+) or down (-) by pressing key 54.
- h) Store the adjusted parameter into memory with key 55.
- i) Return to memory function by another pressing (50).
- j) Start welding, adjust the values if needed and store with SAVE key.
- k) Leave SET function mode by pressing 37.

KEMPPi OY  
PL 13  
FIN – 15801 LAHTI  
FINLAND  
Tel (03) 899 11  
Telefax (03) 899 428  
www.kemppi.com

KEMPPiKONEET OY  
PL 13  
FIN – 15801 LAHTI  
FINLAND  
Tel (03) 899 11  
Telefax (03) 7348 398  
e-mail: myynti.fi@kemppi.com

KEMPPi SVERIGE AB  
Box 717  
S – 194 27 UPPLANDS VÄSBY  
SVERIGE  
Tel (08) 59 078 300  
Telefax (08) 59 082 394  
e-mail: sales.se@kemppi.com

KEMPPi NORGE A/S  
Postboks 2151, Postterminalen  
N – 3103 TØNSBERG  
NORGE  
Tel 33 34 60 00  
Telefax 33 34 60 10  
e-mail: sales.no@kemppi.com

KEMPPi DANMARK A/S  
Literbuen 11  
DK – 2740 SKOVLUNDE  
DANMARK  
Tel 44 941 677  
Telefax 44 941 536  
e-mail:sales.dk@kemppi.com

KEMPPi BENELUX B.V.  
Postbus 5603  
NL – 4801 EA BREDA  
NEDERLAND  
Tel (076) 5717 750  
Telefax (076) 5716 345  
e-mail: sales.nl@kemppi.com

KEMPPi (UK) Ltd  
Martti Kemppi Building  
Fraser Road  
Priory Business Park  
BEDFORD, MK443WH  
ENGLAND  
Tel 0845 6444201  
Fax 0845 6444202  
e-mail: sales.uk@kemppi.com

KEMPPi FRANCE S.A.  
S.A. au capital de 5 000 000 F.  
65 Avenue de la Couronne des Prés  
78681 EPONE CEDEX  
FRANCE  
Tel (01) 30 90 04 40  
Telefax (01) 30 90 04 45  
e-mail: sales.fr@kemppi.com

KEMPPi GmbH  
Otto – Hahn – Straße 14  
D – 35510 BUTZBACH  
DEUTSCHLAND  
Tel (06033) 88 020  
Telefax (06033) 72 528  
e-mail:sales.de@kemppi.com

KEMPPi SP. z o.o.  
Ul. Piłsudskiego 2  
05-091 ZĄBKI  
Poland  
Tel +48 22 781 6162  
Telefax +48 22 781 6505  
e-mail: info.pl@kemppi.com

KEMPPi SWITZERLAND AG  
Chemin de la Colice 4  
CH-1023 Crissier/ Lausanne  
SUISSE  
Tel. +41 21 6373020  
Telefax +41 21 6373025  
e-mail: sales.ch@kemppi.com

KEMPPi WELDING  
MACHINES AUSTRALIA PTY LTD  
P.O. Box 404 (2/58 Lancaster Street)  
Ingleburn NSW 2565, Australia  
Tel. +61-2-9605 9500  
Telefax +61-2-9605 5999  
e-mail: info@kemppi.com.au