

Operating Instructions for Counter/Preset Counter

Model: DAG-Z2F80W2



We don't accept warranty and liability claims neither upon this publication nor in case of improper treatment of the described products.

The document may contain technical inaccuracies and typographical errors. The content will be revised on a regular basis. These changes will be implemented in later versions. The described products can be improved and changed at any time without prior notice.

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2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.

The instruction manuals on our website www.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC machinery directive.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition.

Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:

The standard delivery includes:

- Counter/Preset Counter model: DAG-Z2F80W2

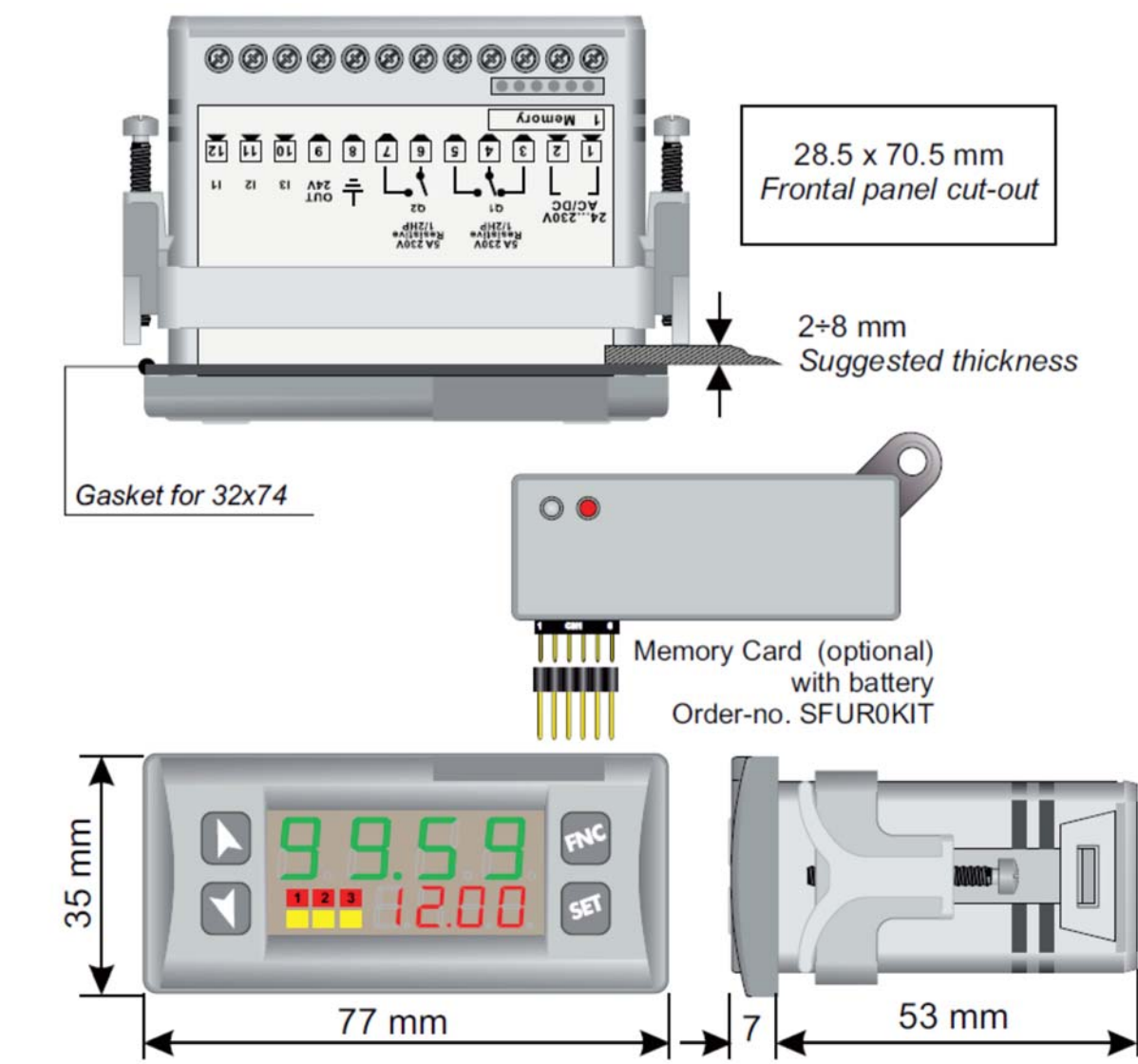
4. Regulation Use

Any use of the device, which exceeds the manufacturer's specification, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

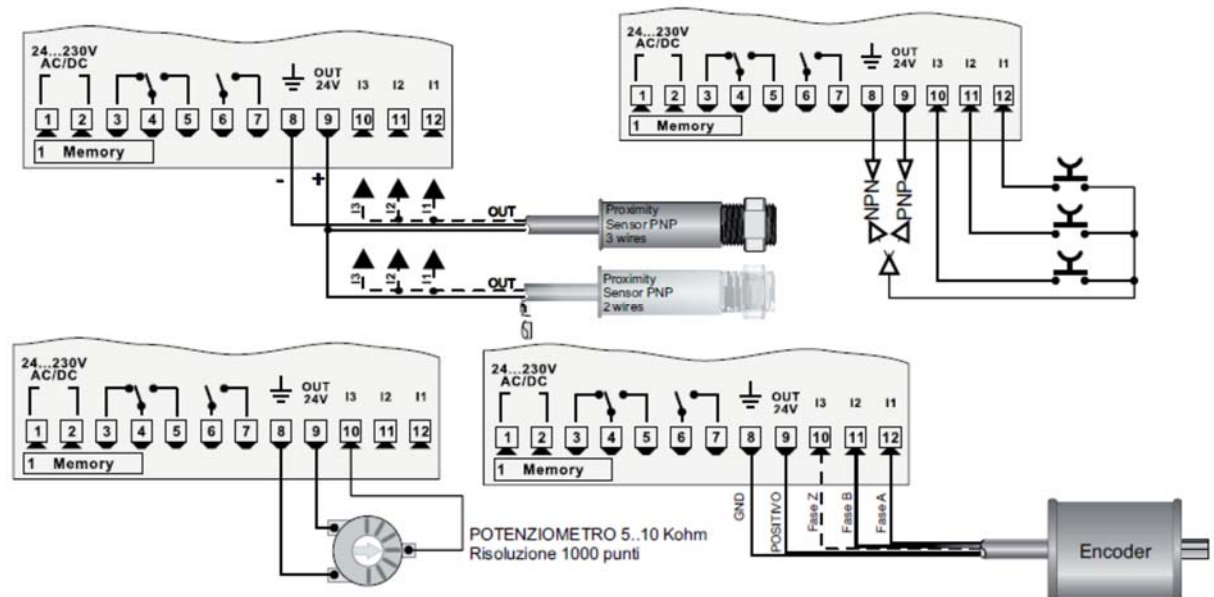
5. Operating Principle

The DAG-Z2 can be set in 2 different modes: Single or Double counter, all with independent settings. 3 universal digital inputs are available (NPN/PNP/Potential free contact) and can be used for bidirectional encoders reading, UP/DOWN counter function, LOCK/HOLD to lock or hold current visualization. One input is also analogue in order to allow setpoint modification by an external

6. Installation



7. Electrical Connection



Potentiometer

To modify Set1 or Set2 by external potentiometer follow the steps below:

1-use potentiometers 0 to 5/10kohm

2-connect cursor to pin I3; a wrong connection may damage the potentiometer and lead to lock of the device.

3-accuracy on input is max 1000 points, therefore set the parameters "Upper limit" and "Lower limit" with a max difference of 1000 units.

(Ex.: LoS1 to 50,0 and uPS1 to 150,0 to modify preset value related to Set1 between 50 and 150 pulses with steps of one tenth). Greater differences would make unstable the less significant digit.

4-To calibrate the scale of potentiometer enter the configuration mode and select: **Hin.3** as Pot **Fin.3** as **Set1** or **Set2** **P.tAr** as Enable

Exit configuration mode and place potentiometer at minimum level and press key, then place potentiometer at max level and press premere key: the device automatically exit the calibration procedure.

N.B.:A switch-off of the device would interrupt the calibration.

8. Memory Card (optional)

Parameters and setpoint values can be copied from one device to another using the Memory card. Attention: Pls. perform first an update of the memory card.

There are two methods:

With the device connected to the power supply:

Insert the memory card when the controller is off.

On activation display 1 shows  and display 2 shows  (Only if the values stored on Memory Card are correct).

By pressing the  key display 2 shows 

Confirm using the  key .

The device loads the new data and starts again.

With the controller disconnected from the power supply: The memory card is equipped with an internal battery with a life of about 1000 uses.Insert the memory card and press the programming button.

When writing the parameters, the LED turns red and on completing the procedure it changes to green. It is possible to repeat the procedure.

Updating Memory Card

To *update* the memory card values, follow the procedure described in the first method, setting display 2 to  so as not to load the parameters on controller. Enter configuration and change at least one parameter.

Exit configuration. Changes are saved automatically.



LED	MEANING
	Report the activation of Q1
	Report the activation of Q2
	Report serial transmission by the DAG-Z2

SETPOINT MODIFICATION		
	PRESS	DISPLAY
1		Visualizes SETPOINT 1 / 2
2	 or 	Modify selected SET
2a		Selects chosen digit
3a	 or 	Modify blinking digit of selected SET

9. Loading Default Values

This procedure restores the factory settings of the instrument.

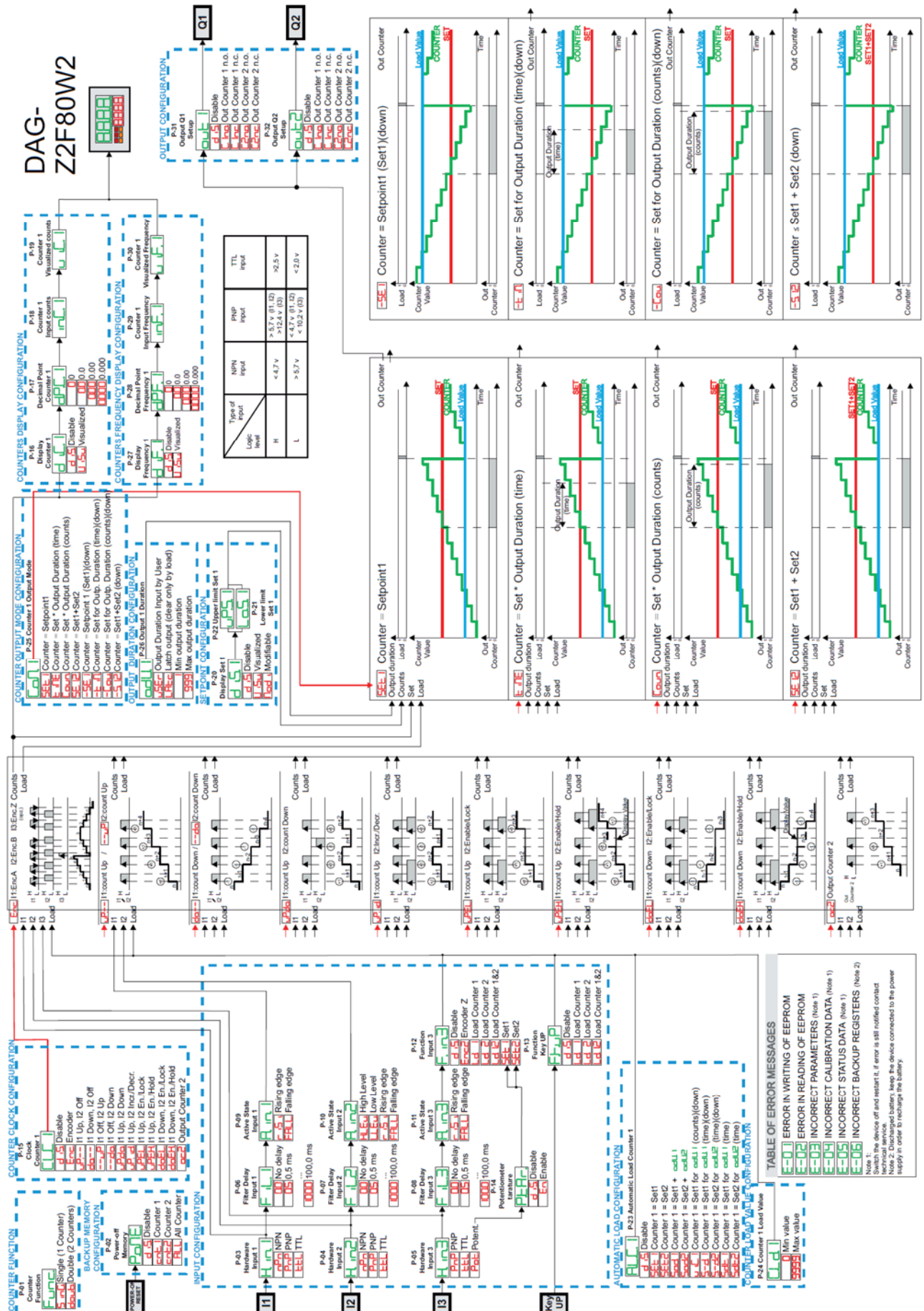
LOADING DEFAULT VALUE			
	PRESS	DISPLAY	FUNCTION
1	 for 3 seconds	Display 1 shows  and 1st digit flashes. Display 2 shows 	
2	 or 	Modify flashing digit and pass to the next one pressing 	Enter password 
3	 to confirm	Device loads default settings	Switch-off and restart the device

10. Operating Principle

MODIFY CONFIGURATION PARAMETERS			
PRESS	DISPLAY	Function	
1  for 3 seconds	Display 1 shows 0000 and 1st digit flashes. Display 2 shows Funct		
2  or 	Modify flashing digit and pass to the next one pressing 	Enter password	
3  to confirm	Display shows first parameter of configuration table Funct		
4  or 	Scroll parameters		
5  +  or  or 	Increase or decrease visualized value by pressing  and an arrow key.	Enter the new data which will be stored releasing the keys	
6 	End configuration, controller exits from programming mode.		

PARAMETERS LIST			
FUNCTION CONFIGURATION			
Funct	P-01 Counter Function	Counter Functions	
	Single (1 Counter)	1 counter functioning	Default
	Double (2 Counters)	2 counters functioning	
BACKUP MEMORY CONFIGURATION			
Power	P-02 Power-off Memory	Power-off memory	
	Disable	No counter stored at power-off	Default
	Counter 1	Counter 1 stored at power-off	
	Counter 2	Counter 2 stored at power-off	
	All Counters	All counters stored at power-off	
INPUT CONFIGURATION			
	P-03 Hardware input 1	Input 1 Hardware configuration	
	P-04 Hardware input 2	Input 2 Hardware configuration	
	P-05 Hardware input 3	Input 3 Hardware configuration	
	NPN	NPN (not available on Input 3)	
	PNP	PNP	Default
	TTL	TTL	
	Potent.	Potentiometer (available only for Input 3)	
	P-06 Filter Delay Input 1	Input 1 digital filter configuration	
	P-07 Filter Delay Input 2	Input 2 digital filter configuration	
	P-08 Filter Delay Input 3	Input 3 digital filter configuration	
	No delay	Input filter disabled	Default
	0.5 ms	Filter of 0.5 ms	
	100.0 ms	Filter of 100.0 ms	
	P-09 Active State Input 1	Active state Input 1	
	P-10 Active State Input 2	Active state Input 2	
	P-11 Active State Input 3	Active state Input 3	
	High Level	High level (available only for Input 2)	
	Low Level	Low level (available only for Input 2)	
	Rising edge	Rising edge	Default
	Falling edge	Falling edge	
	P-12 Function Input 3	Function associated to Input 3	
	Disable	Disabled	
	Encoder Z	Loading encoder Z	Default
	Load Counter 1	Loading counter 1	
	Load Counter 2	Loading counter 2	
	Load Counter 1&2	Loading counters 1 and 2	
	Set1	Set1 setting by potentiometer	
	Set2	Set2 setting by potentiometer	
	P-13 Function Key UP	Function associated to UP (up arrow key)	
	Disable	Disabled	Default
	Load Counter 1	Loading counter 1	
	Load Counter 2	Loading counter 2	
	Load Counter 1&2	Loading counters 1 and 2	
	P-14 Potentiometer	Potentiometer calibration procedure	
	Disable	Disabled	Default
	Enable	Enabled	
COUNTER CLOCK CONFIGURATION			
	P-15 Clock Counter 1	Counter 1 count mode selection	
	P-33 Clock Counter 2	Counter 2 count mode selection	
	Disable	Disabled	Default C2
	Encoder	Bidirectional encoder (I1) phase A, (I2) phase B	
	I1 Up, I2 Off	UP mode (I1)	Default C1
	I1 Down, I2 Off	DOWN mode (I1)	
	I1 Off, I2 Up	UP mode (I2)	
	I1 Off, I2 Down	DOWN mode (I2)	
	I1 Up, I2 Down	UP mode (I1) - DOWN mode (I2)	
	I1 Up, I2 Incr./Decr.	UP mode (I1) with reverse direction (I2)	
	I1 Up, I2 En./Lock	UP mode (I1) with count lock (I2)	
	I1 Up, I2 En./Hold	UP mode (I1) with keeping value on display (I2)	
	I1 Down, I2 En./Lock	DOWN mode (I1) with count lock (I2)	
	I1 Down, I2 En./Hold	DOWN mode (I1) with keeping value on display (I2)	
	Output Counter 2/1	UP count on rising edge of counter 2/1 output	
COUNTER DISPLAY CONFIGURATION			
	P-16 Display Counter 1	Counter 1 visualization selection	
	P-34 Display Counter 2	Counter 2 visualization selection	

	Disable	Counter value not visualized	Default C2
	Visualized	Counter value visualized	Default C1
	P-17 Decimal Point Counter 1	Counter 1 visualization format	
	P-35 Decimal Point Counter 2	Counter 2 visualization format	
	0	No decimal digit visualization	Default C1/C2
	0.0	1 decimal digit visualization	
	0.00	2 decimal digits visualization	
	0.000	3 decimal digits visualization	
	P-18 Counter 1 input counts	Counter 1 input counts (1 to 9999)	Default 1
	P-36 Counter 2 input counts	Counter 2 input counts (1 to 9999)	Default 1
	P-19 Counter 1 Visualized Counts	Counter 1 visualized counts (1 to 9999)	Default 1
	P-37 Counter 2 Visualized Counts	Counter 2 visualized counts (1 to 9999)	Default 1
SETPPOINT CONFIGURATION			
	P-20 Display Set 1	Counter 1 setpoint visualization selection	
	P-38 Display Set 2	Counter 2 setpoint visualization selection	
	Disable	Setpoint value not visualized	Default C2
	Visualized	Setpoint value visualized	
	Modifiable	Setpoint value visualized and modifiable	Default C1
	P-21 Lower Limit Set 1	Set 1 minimum value (0 to 9999)	Default 0
	P-39 Lower Limit Set 2	Set 2 minimum value (0 to 9999)	Default 0
	P-22 Upper Limit Set 1	Set 1 maximum value (0 to 9999)	Default 999
	P-40 Upper Limit Set 2	Set 2 maximum value (0 to 9999)	Default 999
AUTOMATIC LOAD CONFIGURATION			
	P-23 Automatic Load Counter 1	Counter 1 automatic loading	
	P-23 Automatic Load Counter 1	Counter 1 automatic loading	
	Disable	Automatic loading disabled	Default C2
	Counter = Set 1	Loading if counter = Set1	Default C1
	Counter = Set 2	Loading if counter = Set2	
	Counter = Set 1 + Set2	Relay active = Set1 for Time1	
	Counter = Set 2 + Set2	Relay active = Set2 for Time2	
	Counter = Set 1 for  (counts) (down)	Loading Value1 when reached 0	
	Counter = Set 2 for  (counts) (down)	Loading Value2 when reached 0	
	Counter = Set 1 for  (time) (down)	Loading = Set1 - Output duration1	
	Counter = Set 2 for  (time) (down)	Loading = Set1 - Output duration1	
	Counter = Set 1 for  (time)	Loading if counter = Set1 Output Duration 1	
	Counter = Set 1 for  (time)	Loading if counter = Set1 Output Duration 2	
COUNTER LOAD VALUE CONFIGURATION			
	P-24 Counter Load Value 1	Counter 1 loading value	Default 0
	P-42 Counter Load Value 2	Counter 2 loading value	Default 0
COUNTER OUTPUT MODE CONFIGURATION			
	P-25 Counter 1 Output Mode	Counter 1 output mode	
	P-43 Counter 2 Output Mode	Counter 2 output mode	
	Counter = Set1	Output active if Counter=Set	Default C1
	Counter = Set2	Output active if Counter=Set	Default C2
	Counter = Set * Output Duration (time)	Output active for Output Duration (time)	
	Counter = Set * Output Duration (counts)	Output active for Output Duration (counts)	
	Counter = Set1 + Set2	Output active if Set1+Set2	
	Counter = Set1 (down)	Output active if Set1+Set2	Only P-25
	Counter = Set2 (down)	Output active if Set1+Set2	Only P-43
	Counter = Set * Output Duration (time)(down)	Output active for Output Duration (time)	
	Counter = Set * Output Duration (counts)(down)	Output active for Output Duration (counts)	
	Counter = Set1 + Set2 (down)	Output active if Set1+Set2	
OUTPUT DURATION CONFIGURATION			
	P-26 Output 1 Duration	Counter 1 output duration	Default 1.0
	P-44 Output 2 Duration	Counter 2 output duration	Default 10
	Output Duration Input by User	Value modifiable by user	
	Latch output (clear only by load)	Latch output, resettable by counter loading	
	Min output duration	Output duration minimum value	
	Max output duration	Output duration maximum value	
COUNTER FREQUENCY DISPLAY CONFIGURATION			
	P-27 Display Frequency Counter 1	Counter 1 frequency visualization	
	P-45 Display Frequency Counter 2	Counter 2 frequency visualization	
	Disable	Counter frequency value not visualized	Default
	Visualized	Counter frequency value visualized	
	P-28 Decimal Point Frequency Counter 1	Counter 1 frequency format	
	P-46 Decimal Point Frequency Counter 2	Counter 2 frequency format	
	0	Visualization with no decimal digit	Default
	0.0	Visualization with 1 decimal digit	
	0.00	Visualization with 2 decimal digits	
	0.000	Visualization with 3 decimal digits	
	P-29 Counter 1 Input frequency	Counter 1 input frequency (1...9999Hz)	Default 1
	P-47 Counter 2 Input frequency	Counter 2 input frequency (1...9999Hz)	Default 1
	P-30 Counter 1 Visualized Frequency	Counter 1 visualized frequency	Default 1
	P-48 Counter 2 Visualized Frequency	Counter 2 visualized frequency	Default 1
	P-31 Output Q1 Setup	Output Q1 setting	
	P-32 Output Q2 Setup	Output Q2 setting	
	Disable	Disabled output	Default C2
	Out Counter 1 n.o.	Counter 1 output on n.o. contact	Default C1
	Out Counter 1 n.c.	Counter 1 output on n.c. contact	
	Out Counter 2 n.o.	Counter 2 output on n.o. contact	
	Out Counter 2 n.c.	Counter 2 output on n.c. contact	



11. Technical Information

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

12. Order Codes

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

13. Dimensions

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

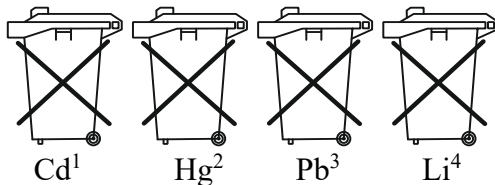
14. Disposal

Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

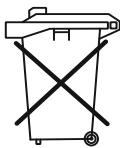
Batteries

Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

Electrical and electronic equipment



15. EU Declaration of Conformance

We, KOBOLD Messring GmbH, Hofheim-Ts, Germany, declare under our sole responsibility that the product:

Counter/Preset Counter: DAG-Z2F80W2

to which this declaration relates is in conformity with the standards noted below:

EN 61000-6-4
EN 55011:2009+A1:2010

EN 61000-6-2
EN 61000-4-2
EN 61000-4-3
EN 61000-4-4
EN 61000-4-5
EN 61000-4-6
EN 61000-4-8

EN 61000-4-11

EN 61010-1

Also, the following EC guidelines are fulfilled:

2014/30/EU	EMC Directive
2014/35/EU	Low Voltage Directive
2011/65/EU	RoHS (category 9)

Hofheim, 11 May 2017



H. Peters
General Manager



M. Wenzel
Proxy Holder