Documentation folder

Number **TC11198-1**
Project number 1901517

Number	Pages	Description	Remark
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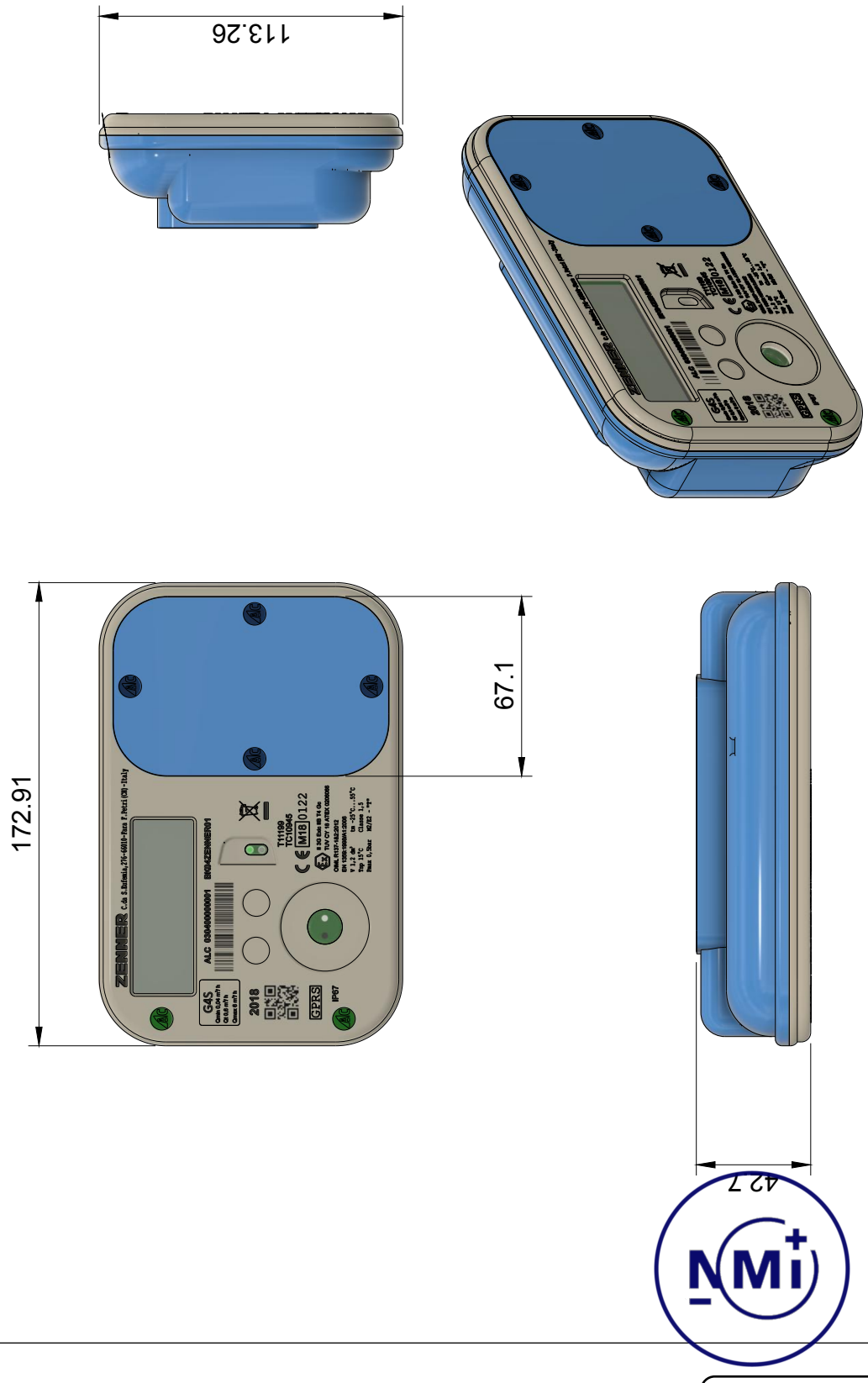
11198/0-03	3	Error codes	-
11198/0-04	1	Sealing	Example
		MAIN printed cicuit board:	
11198/0-05	2	- Assembly	-
11198/0-06	5	- Parts list	-
		Integrated Temperature Sensor printed ciruit board:	
11198/0-07	1	- Assembly	-
11198/0-08	1	- Parts list	-



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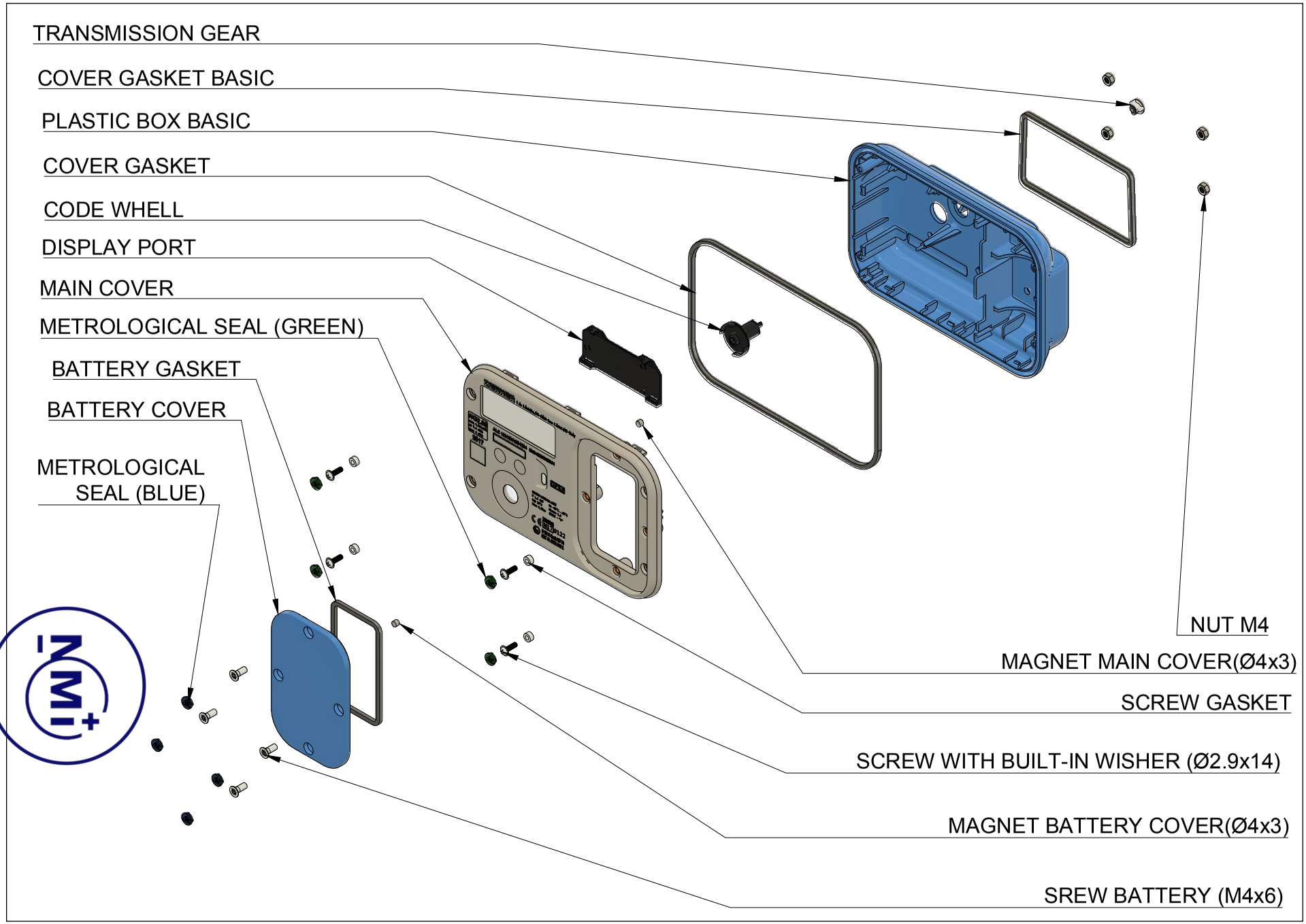
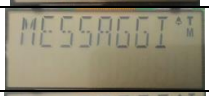
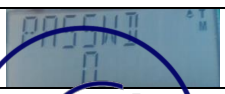

TRANSMISSION GEAR
COVER GASKET BASIC
PLASTIC BOX BASIC
COVER GASKET
CODE WHELL
DISPLAY PORT
MAIN COVER
METROLOGICAL SEAL (GREEN)
BATTERY GASKET
BATTERY COVER
METROLOGICAL SEAL (BLUE)
NUT M4
MAGNET MAIN COVER(Ø4x3)
SCREW GASKET
SCREW WITH BUILT-IN WISHER (Ø2.9x14)
MAGNET BATTERY COVER(Ø4x3)
SREW BATTERY (M4x6)

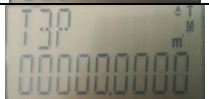
INFORMATION VIEWED ON THE DISPLAY

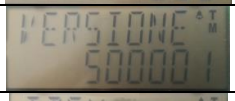
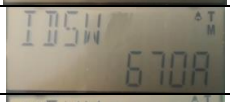
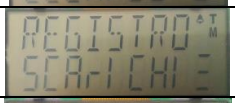
Given normal conditions, the display of the device is off; it is enabled by pressing the right touch key. By pressing the left touch key, the Main Menu items of the Submenus (*Message, Technical Menu* and *Downloads Log)* are sequentially displayed. By pressing the right touch key, the different *Submenus* are displayed or some operations can be executed (the chance to use the right key is indicated by the presence of 3 horizontal lines on the last digit of the display). To exit the submenus, scroll through up to the last item of the relevant menu, except for the *Technical Menu*, which has a specific exit item.

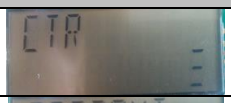
If the keys are not used for 30", the display goes back to the off status.

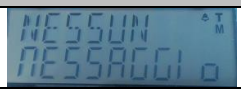
Each datum is identified by a label. The table below includes a list of all the data in the order they are displayed.

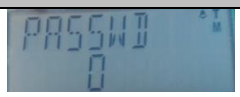
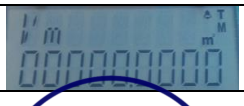
MAIN MENU		
DATUM	**DESCRIPTION**	
▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪ / Vb (Only upon start-up)	All segments ON for 2", all segments OFF for 1", and then the totalizer of volumes at reference thermodynamics conditions expressed in m^3	
D	Date	
H	Hour	
ID	identification code of the redelivery point	
SD	device status; it can be: <TO BE CONFIGURED>, <NORMAL>,	
➔ **ENABLE PROBE**	Zvei optical probe enabling Submenu. If the optical probe is already enabled, this menu item becomes DISABLE PROBE, and the probe is directly disabled when the right touch key is pressed, without having to get into any submenu	
F	tariff band in force; it can be <1>, <2>,< 3>,< PT NOT CONF>	
DG	diagnostics log in which the codes of the detected failures are indicated	
SADI	status of some digital inputs	
➔ **MESSAGE**	'Message' Submenu, a text message for the user is shown	
SV	solenoid valve status: <OPEN>, <CLOSED CODE xx>, <ENABLED> or <INCORRECT STATUS>	
OPEN VALVE	This item is displayed only if SV ENABLED; press the right touch key to open the valve or to go to the password entering field if this is required to open the valve	
PASSWD	This item is displayed only if you want to open the valve, and a password is required to do so: use the left key to increase the numeric value of the	

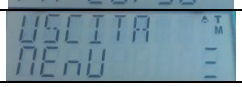
	individual digit, and use the right key to move to the following digit or to confirm the password that has been entered (if it is pressed after having entered a value for the sixth digit or on a previous digit that has never been increased)	
Vb	totalizer of volumes at reference thermodynamics conditions expressed in m^3	
TA	totalizer of volumes in alarm expressed in m^3	
PPR	remaining m^3 of gas if the 'prepaid' mode is in force. Otherwise, <PP NOT CONFIGURED>	
PT	identifier of the tariff programme or < PT NOT CONFIGURED> if no tariff programme is active	
T1	totalizer of volumes at reference thermodynamics conditions in band 1 in the current billing period	
T2	totalizer of volumes at reference thermodynamics conditions in band 2 in the current billing period	
T3	totalizer of volumes at reference thermodynamics conditions in band 3 in the current billing period	
QVA	maximum flow rate in the current billing period	
DF	date the billing period ends	
HF	time the billing period ends	
VbP	totalizer of volumes in the previous billing period;	
TAP	totalizer of volumes with error in the previous billing period	
PTPRE	identifier of the previous tariff programme or < PTPRE NOT CONFIG> if no tariff programme was active in the previous billing period	
T1P	totalizer of volumes in band 1 in the previous billing period;	
T2P	totalizer of volumes in band 2 in the previous billing period	
T3P	totalizer of volumes in band 3 in the previous billing period	
Qv	maximum flow rate in the previous billing period	

Tb	reference temperature (fixed value set at 15°C);	
GSM	reception level of the GSM signal expressed in dB;	
bT METR	Metrology battery residual charge percentage	
bT COM	Communication battery residual charge percentage	
VERSION	software version	
IdSW	identification code of the software	
➔ **Technical menu**	'Technical Menu' Submenu	
➔ **DOWNLOADS LOG**	Submenu showing the records related to all the firmware download attempts	
➔ **EVENT RECORDER**	Submenu showing the records related to all events attempt	

ENABLE PROBE MENU		
DATUM	**DESCRIPTION**	
CTR	Press the right touch key to enable the optical probe for the bidirectional communication according to the CTR protocol	
READOUT	Press the right touch key to enable the optical probe for reading the following data in ASCII format: Vm, Vc, Vb, TA, T, Tb, C, BT COM, BT METR, DG, SADI, VER, IDSW	

MESSAGE MENU		
DATUM	**DESCRIPTION**	
	Text message for the user or <NO MESSAGE> if there are no messages	

TECHNICAL MENU		
DATUM	**DESCRIPTION**	
PASSWD	Accessing the Technical Menu requires entering a password; such password must be entered following the procedure described above for the password required to open the valve	
Vm	totalizer of volumes at measurement conditions expressed in m^3	

Vc	totalizer of volumes corrected according to the mechanical meter error curves expressed in m^3	
Vb	totalizer of volumes at reference thermodynamics conditions expressed in m^3	
T	gas temperature expressed in degrees Celsius, or <NOT MEASURED> if there has been an error in the sampling	
C	conversion factor of volumes, or <NOT CALCULATED> if the temperature could not be sampled	
SAC CALL	press the right touch key to establish a connection with the remote management centre	 
EXIT MENU	press the right touch key to exit the Technical Menu	

DOWNLOADS LOG MENU	
DATUM	**DESCRIPTION**
EMPTY LOG	There have been no download attempts
For each download attempt, these two items are present:	
dd/mm/yy hhmm	Download date and time
XXXX U result	XXXX = idSw of the downloaded firmware, U = code of the user who has made the download, result = final result of the download: <COMPLETED> or <FAILED>

In addition to the menu items, the display also shows other data, such as the result of some operations commanded by means of the menu items. The following table includes a list of such data.

LIST OF MESSAGES	
DATUM	**DESCRIPTION**
PROBE DISABLED	Displayed when the optical probe is disabled from the menu
ENABLING FAILED	Displayed when the optical probe enabling fails (e.g., if the modem is turned on)
PROBE ENABLED	Displayed when the optical probe is enabled
PWD NOT CONFIG	Displayed when, even though a password is required for opening the valve, the password has not been defined, or when an attempt is made to access the Technical Menu, but the access password has not been defined
INCORRECT PASSWORD	Displayed when the password entered to open the valve, or to access the Technical Menu, is incorrect
OPENING IN PROGRESS	Displayed when the valve opening command has been given
VALVE OPEN	Displayed when the valve opening command has been successfully completed
VALVE CLOSED	Displayed when the valve opening command has been completed with a failure due to the detection of excess gas flow during the operation
CALL IN PROGRESS	Displayed when a SAC CALL has been established from the display
CALL LIMIT REACHED	Displayed when the maximum number of calls to SAC that can be made in one day from the display has been reached
MODEM BUSY	Displayed if an attempt is made to establish a SAC CALL from the display when the modem was already ON to perform a communication
COM BAT DISCONNECTED	Displayed when the communication battery is disconnected
COM BAT CONNECTED	Displayed when the communication battery is reconnected
LOCAL CONFIG	Displayed when, after resetting the device, in NON CONFIGURED status, the procedure to enable the local configuration by means of optical probe has been followed
CONFIG COMPLETED	Displayed after the local configuration has been correctly completed
CONFIG FAILED	Displayed after the local configuration has been incorrectly completed

UPGRADE ERROR 1	Displayed if the upgrade to the new downloaded firmware fails due to errors in the data transferred
UPGRADE ERROR 2	Displayed if the upgrade to the new downloaded firmware fails due to internal errors of the device
QUARTZ FAILURE	Displayed when a failure of the quartz inside the device is detected
ZVEI ENABLED	Displayed when the Zvei optical probe is enabled
ZVEI INTERRUPTED	Displayed when the Zvei optical probe is disconnected without having disabled it first

2.12 Events log

Every BK04ZENNER01 has an *events log* where all the significant events related to the device operation are saved. The events logged may be:

- change of parameters for volume conversion;
- device failure;
- corrupted database;
- supply management;
- configuration and entry into force of a tariff program;
- entry into force of new software;
- database reset;
- interruption of power source and battery change;

For each event, the following information is recorded:

- date and time the event occurred;
- kind of event;

- progressive number of the event;
- identification code of the operator that generated the event (if applicable);
- old value and new value of the parameters that were modified that may influence the volume calculation;
- volume totalizer at reference conditions when the event occurred.

This log can be consulted by the management centre after an express request.

Some events that are particularly relevant because they may jeopardize the normal operation of the device are considered as alarms and signaled to the management centre within 24 hours.

The management of events and their definitions are made in compliance with the MID Directive and UNI/TS11291 Technical Standard.

2.13 Diagnostics

The BK04ZENNER01 has a log named *DG* that contains the diagnostics messages listed in Table 1

Anomaly	Activation	Deactivation	Code
Metrology battery emergency	When the metrology battery backup communication battery comes into operation		01
Communication battery emergency	The residual autonomy of the battery is at 10% of the declared autonomy	After the battery is replaced	02
Events log 90%	When 90% of the total space of the events log is exceeded	Cannot be deactivated	03
Generic alarm **	When reverse flow is detected	When normal flow is restored	04
Events log full	There is no more space in the events log	Cannot be deactivated	05
Clock mismatch	The clock of the BK04F/R01 is not synchronized yet	The clock is properly synchronized	06
Volume calculation function alarm	It alerts that there is at least one failure that hinders volume calculation	Volumes have been correctly calculated	07
Corrupt database	The database was not recognized as reliable	Cannot be deactivated	08
Valve closing error	Flow detection with ‘closed valve status’	Not applicable	09
Valve opening error	Excess flow during the solenoid valve opening test	Not applicable	10

Alert warning that the first prepaid threshold has been reached	If in ‘prepaid’ mode, the counted gas is above the alert threshold	When the prepaid service is recharged or deactivated.	11
Alert warning that the prepaid amount is finished.	If in ‘prepaid’ mode, the counted gas is above the prepaid amount	When the prepaid service is recharged or deactivated.	12
Qb alarm threshold exceeded	The instantaneous flow rate measured exceeds the set limit	The instantaneous flow rate is back below the set limit	13

This log contains the codes of the alarms present at the time of display; otherwise, it is empty if no anomalies are found.

The alarm is displayed when a triggering condition arises and it is reset when the condition is no longer present.

If the alarm condition is related to the unreliability of a log, this will be signaled by an asterisk (*) to highlight the fact that its value is not reliable.

In addition to the alarms included in table 1, the following alarms are shown in the ‘SADI’ menu:

- Bit0 = 0(1) presence (absence) of communication battery,
- Bit1 = 0(1) absence (presence) of tamper box alarm
- Bit2 = 0(1) absence (presence) of battery compartment tamper alarm
- Bit3=0(1) metrology battery exhausted alarm

(**) If reverse flow is detected, a code 04 alarm and a corresponding H35 generic event with sub-code H93 are generated

1.6 Seals

The figure below shows the different types of seals found on the BK04ZENNER01 to protect the device.

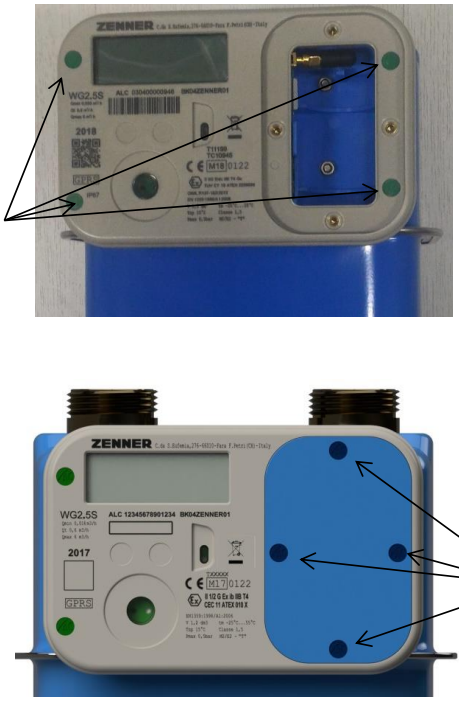


Figure 1-4

The security seal protects the device against any attempts to tamper with either the electronic volume conversion part, or the mechanical volume measurement part. Such seal is directly fitted when the device is manufactured, and its purpose is to guarantee the device metering certification.

The seals on the battery compartment (see fig. 1-4) are directly fitted by the customer, in order to protect the compartment against any unauthorized access. There are no restrictions regarding the type of such seals and the method followed to fit them.

When the communication battery is changed, such seals must be removed in order to reach the compartment. Afterwards, they must be replaced with others once the procedure is completed. The 'communication battery' compartment also serves as the housing for the GSM SIM card, the GSM antenna and the reset button (fig. 1-5).

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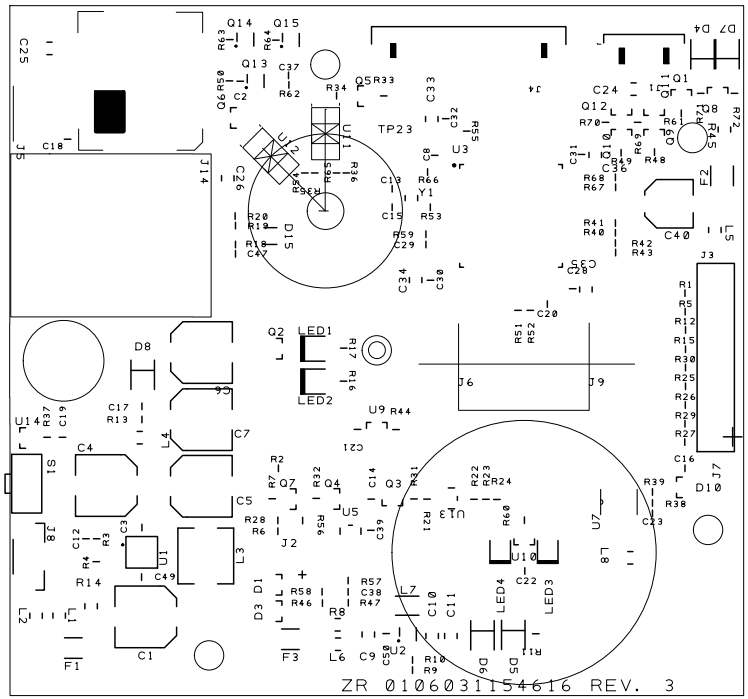
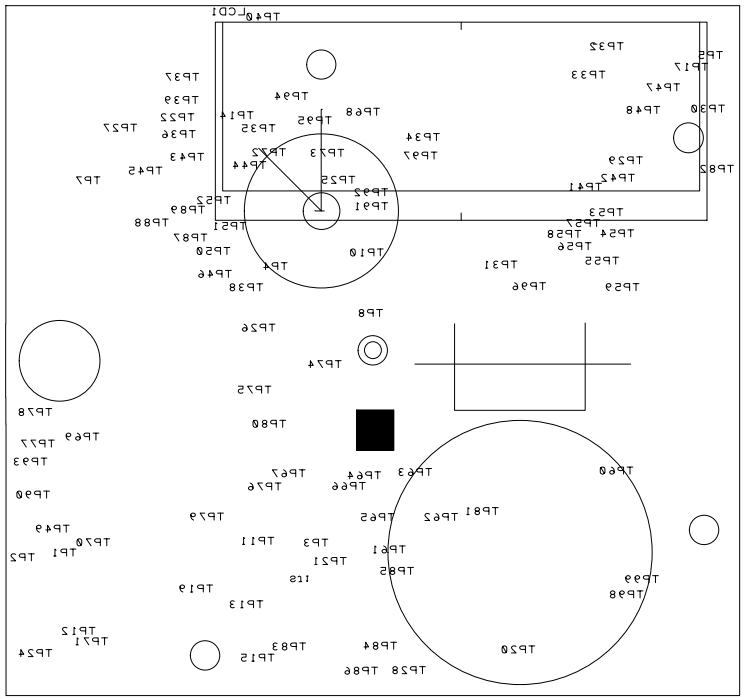
BT1 ANT1



SCALE 1:1

COMPANY	DATE	TITLE	DESIGNER AUTHOR
ZENNER GAS s.r.l. - ITALY	02 10 2018	BK04ZENNER01 rev. 3	ing. Luca D´Ambrosio



SCALE 1:1

COMPANY	DATE	TITLE	DESIGNER AUTHOR
ZENNER GAS s.r.l. - ITALY	02 10 2018	BK04ZENNER01 rev. 3	ing. Luca D´Ambrosio

Component Report

Author and designer : ing. Luca D'Ambrosio
Report Written: Wednesday, July 25, 2018
Project Path: Y:\PCA\bk\bkPCA\0509046158416(Metano ST 03)\0509046158416.prj
Design Path: Y:\PCA\bk\bkPCA\0509046158416(Metano ST 03)\0509046158416.pcb
Design Title:
Created: 30/09/2015 17:01:19
Last Saved: 27/06/2018 13:50:40
Editing Time: 23189 min
Units: mm (precision 2)

DISTINTA BASE

CAC	Qty	Component	Mfr PN
0509046173618	1	ANT SMA KSW30	KSW-GSM-030
0406026157216	1	BAT ER26500H-/2PT	ER26500H-/2PT
0406032143715	2	TOUCH SPRING	
0106030000405	8	IRLML6401	IRLML6401
0106030001105	2	PDTC144ET	PDTC144ET
0106030001205	3	PUMD2	PUMD2
0106030030705	1	EDSA6V1W5	ESDA6V1W5
0106030073309	1	M24M01	M24M01-RMN6
0106030073809	1	TPS61220	TPS61220DCK
0106030077610	1	LST776Q1R21	LST776Q1R21
0106030077710	1	LPT776L1M2-25	LP T776-L1M2-25
0106030077810	3	BAT54S	BAT54S-7-F
0106030084710	1	VEMD2000x01	VEMD2000X01
0106030086411	1	TPS61020	TPS61020DRC
0106030086511	1	VSMB2000X01	VSMB2000X01
0106030109612	2	TLV3491	TLV3491AIDBV
0106030115712	4	SMA5923	SZ1SMA5923
0106030145015	1	SIM800C	SIM800C
0106030153716	3	TLE4913	TLE4913
0106030154516	1	STM32L476VE	STM32L476VE
0106030155016	2	TCPT1300X01	TCPT1300X01
0106030158216	1	SMAZ5V1	SMAZ5V1-13-F
0106030171518	2	NTR4501NT1G	NTR4501NT1G
0106031002505	14	C 100nF 0603	0603YC104KAT2A
0106031003105	7	R 2M 1% 0603	CRCW06032M00FKEA
0106031003205	1	R 1M 1% 0603	CRCW06031M00FKEA
0106031003305	3	R 220 1% 0603	CRCW0603220RFKEA
0106031003405	3	R 0 0603	CRCW06030000Z0EA
0106031003805	12	R 220k 1% 0603	CRCW0603220KFKEA
0106031004005	2	R 10k 1% 0603	CRCW060310K0FKEA
0106031004105	14	R 33 1% 0603	CRCW060333R0FKEA
0106031004305	10	R 22k 1% 0603	CRCW060322K0FKEA
0106031028905	5	C 1000uF 6.3V Al F	EEEFK0J102P
0106031031405	3	R 1k 1% 0603	CRCW06031K00JNEA

0106031045705	1	R 100 1% 0603 0.15W	MCT0603MC1000FP500
0106031074009	8	C 10pF 0603	0603YA100KAT2A
0106031076110	1	PTC 200mA	ERF SD020-30
0106031078510	1	LQH32CN4R7M23	LQH32CN4R7M23
0106031082510	1	C 47uF Al D	EEEFC1C470P
0106031082610	4	C 2.2uF 1206	1206YD225KAT2A
0106031082810	1	R 680k 1% 0603	CRCW0603680KFKEA
0106031082910	6	742792116	742792116
0106031085610	1	R 200k 1% 0603	CRCW0603200KFKEA
0106031085710	3	R 4M7 1% 0603	CRCW06034M70FKEA
0106031085810	1	R 3M 1% 0603	CRCW06033M00FKEA
0106031086211	1	74477710	74477710
0106031086311	1	R 487k 1% 0603	CRCW0603487KFKEA
0106031088911	1	FUSE NANO 1.5A 1	045201.5MRL
0106031089411	1	PTC 140mA	ERF SD014-60
0106031110212	1	R 1M43 1% 0603	CRCW06031M43FKEA
0106031152816	1	LCD9+9	0106031152816
0106031154616	1	PCB 4616	0106031154616
0106031157916	1	RT3215-32.768K	RT3215-32.768-6-TR
0106031158116	6	C 22uF 1206	12066D226MAT2A
0106031162417	2	C 4.7nF 0603 C0G	CGA3E2C0G1H472J080AD
0106031162717	1	CON3-1.25-SMD molex	532610371
0106031163217	3	R 0.1 1% 1206	ERJ-8BWFR100V
0106031171318	1	SIM475530001	475530001
0106031171418	1	TOP-SMA-BOARD-ALI	TOP-SMA
0106031171618	1	ZIF 1x10 0.50 molex	527451033
0106031171718	1	ZIF 1x40 0.50 top molex	541044031
0506029168017	1	BAT_ER34615M_Z	ER34615M-PACK
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DISTINTA PER PIAZZAMENTO

CAC	Qty	Component	Ref Name
0509046173618	1	ANT SMA KSW30	ANT1
0406026157216	1	BAT ER26500H-/2PT	J2
0406032143715	1	TOUCH SPRING	J6
	1	TOUCH SPRING	J9
0106030000405	1	IRLML6401	Q3
	1	IRLML6401	Q4
	1	IRLML6401	Q7
	1	IRLML6401	Q5
	1	IRLML6401	Q9
	1	IRLML6401	Q10
	1	IRLML6401	Q1
	1	IRLML6401	Q8
0106030001105	1	PDTC144ET	Q6
	1	PDTC144ET	Q2
0106030001205	1	PUMD2	Q13
	1	PUMD2	Q14
	1	PUMD2	Q15

0106030030705	1	EDSA6V1W5	D15
0106030073309	1	M24M01	U7
0106030073809	1	TPS61220	U2
0106030077610	1	LST776Q1R21	LED2
0106030077710	1	LPT776L1M2-25	LED1
0106030077810	1	BAT54S	D3
	1	BAT54S	D1
	1	BAT54S	D10
0106030084710	1	VEMD2000x01	LED3
0106030086411	1	TPS61020	U1
0106030086511	1	VSMB2000X01	LED4
0106030109612	1	TLV3491	U13
	1	TLV3491	U5
0106030115712	1	SMA5923	D5
	1	SMA5923	D6
	1	SMA5923	D4
	1	SMA5923	D7
0106030145015	1	SIM800C	U4
0106030153716	1	TLE4913	U9
	1	TLE4913	U10
	1	TLE4913	U14
0106030154516	1	STM32L476VE	U3
0106030155016	1	TCPT1300X01	U11
	1	TCPT1300X01	U12
0106030158216	1	SMAZ5V1	D8
0106030171518	1	NTR4501NT1G	Q11
	1	NTR4501NT1G	Q12
0106031002505	1	C 100nF 0603	C18
	1	C 100nF 0603	C49
	1	C 100nF 0603	C50
	1	C 100nF 0603	C16
	1	C 100nF 0603	C14
	1	C 100nF 0603	C23
	1	C 100nF 0603	C28
	1	C 100nF 0603	C30
	1	C 100nF 0603	C31
	1	C 100nF 0603	C32
	1	C 100nF 0603	C29
	1	C 100nF 0603	C38
	1	C 100nF 0603	C39
	1	C 100nF 0603	C47
0106031003105	1	R 2M 1% 0603	R23
	1	R 2M 1% 0603	R24
	1	R 2M 1% 0603	R28
	1	R 2M 1% 0603	R58
	1	R 2M 1% 0603	R46
	1	R 2M 1% 0603	R54
	1	R 2M 1% 0603	R65
0106031003205	1	R 1M 1% 0603	R22
0106031003305	1	R 220 1% 0603	R17
	1	R 220 1% 0603	R16
	1	R 220 1% 0603	R31

0106031003405	1	R 0 0603	R11
	1	R 0 0603	R53
	1	R 0 0603	R59
0106031003805	1	R 220k 1% 0603	R2
	1	R 220k 1% 0603	R32
	1	R 220k 1% 0603	R33
	1	R 220k 1% 0603	R7
	1	R 220k 1% 0603	R48
	1	R 220k 1% 0603	R49
	1	R 220k 1% 0603	R37
	1	R 220k 1% 0603	R44
	1	R 220k 1% 0603	R60
	1	R 220k 1% 0603	R6
	1	R 220k 1% 0603	R61
	1	R 220k 1% 0603	R71
0106031004005	1	R 10k 1% 0603	R35
	1	R 10k 1% 0603	R36
0106031004105	1	R 33 1% 0603	R20
	1	R 33 1% 0603	R19
	1	R 33 1% 0603	R18
	1	R 33 1% 0603	R1
	1	R 33 1% 0603	R5
	1	R 33 1% 0603	R12
	1	R 33 1% 0603	R15
	1	R 33 1% 0603	R25
	1	R 33 1% 0603	R26
	1	R 33 1% 0603	R40
	1	R 33 1% 0603	R41
	1	R 33 1% 0603	R42
	1	R 33 1% 0603	R62
	1	R 33 1% 0603	R67
0106031004305	1	R 22k 1% 0603	R27
	1	R 22k 1% 0603	R29
	1	R 22k 1% 0603	R38
	1	R 22k 1% 0603	R39
	1	R 22k 1% 0603	R55
	1	R 22k 1% 0603	R30
	1	R 22k 1% 0603	R50
	1	R 22k 1% 0603	R63
	1	R 22k 1% 0603	R64
	1	R 22k 1% 0603	R13
0106031028905	1	C 1000uF 6.3V Al F	C4
	1	C 1000uF 6.3V Al F	C5
	1	C 1000uF 6.3V Al F	C6
	1	C 1000uF 6.3V Al F	C7
	1	C 1000uF 6.3V Al F	C1
0106031031405	1	R 1k 1% 0603	R51
	1	R 1k 1% 0603	R52
	1	R 1k 1% 0603	R66
0106031045705	1	R 100 1% 0603 0.15W	R34
0106031074009	1	C 10pF 0603	C3
	1	C 10pF 0603	C17

	1	C 10pF 0603	C12
	1	C 10pF 0603	C22
	1	C 10pF 0603	C19
	1	C 10pF 0603	C21
	1	C 10pF 0603	C2
	1	C 10pF 0603	C37
0106031076110	1	PTC 200mA	F3
0106031078510	1	LQH32CN4R7M23	L7
0106031082510	1	C 47uF Al D	C40
0106031082610	1	C 2.2uF 1206	C10
	1	C 2.2uF 1206	C24
	1	C 2.2uF 1206	C25
	1	C 2.2uF 1206	C26
0106031082810	1	R 680k 1% 0603	R21
0106031082910	1	742792116	L2
	1	742792116	L4
	1	742792116	L5
	1	742792116	L6
	1	742792116	L1
	1	742792116	L8
0106031085610	1	R 200k 1% 0603	R4
0106031085710	1	R 4M7 1% 0603	R56
	1	R 4M7 1% 0603	R57
	1	R 4M7 1% 0603	R47
0106031085810	1	R 3M 1% 0603	R9
0106031086211	1	74477710	L3
0106031086311	1	R 487k 1% 0603	R10
0106031088911	1	FUSE NANO 1.5A 1	F1
0106031089411	1	PTC 140mA	F2
0106031110212	1	R 1M43 1% 0603	R3
0106031152816	1	LCD9+9	LCD1
0106031154616	1	PCB 4616	PCB1
0106031157916	1	RT3215-32.768K	Y1
0106031158116	1	C 22uF 1206	C9
	1	C 22uF 1206	C33
	1	C 22uF 1206	C34
	1	C 22uF 1206	C35
	1	C 22uF 1206	C36
	1	C 22uF 1206	C11
0106031161417	1	C 4.7nF 0603 C0G	C8
	1	C 4.7nF 0603 C0G	C20
0106031162717	1	CON3-1.25-SMD molex	J8
0106031163217	1	R 0.1 1% 1206	R8
	1	R 0.1 1% 1206	R14
	1	R 0.1 1% 1206	R45
0106031171318	1	SIM475530001	J14
0106031171418	1	TOP-SMA-BOARD-ALI	J5
0106031171618	1	ZIF 1x10 0.50 molex	J1
0106031171718	1	ZIF 1x40 0.50 top molex	J4
0506029168017	1	BAT_ER34615M_Z	BT1

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DISTINTA PER P&P

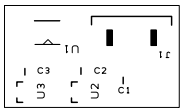
Ref Name	Side	Position X	Position Y	Rotation
ANT1	Top	608.60	513.10	0.00
BT1	Top	607.60	513.10	0.00
C1	Top	472.57	387.13	0.00
C2	Top	485.45	460.13	180.00
C3	Top	472.05	399.30	90.00
C4	Top	467.20	405.02	0.00
C5	Top	480.15	404.93	180.00
C6	Top	480.18	423.15	180.00
C7	Top	480.15	414.00	180.00
C8	Top	511.95	450.02	0.00
C9	Top	502.90	384.73	180.00
C10	Top	511.60	384.52	180.00
C11	Top	514.15	384.52	180.00
C12	Top	464.43	397.77	0.00
C14	Top	503.30	403.18	0.00
C16	Top	546.05	407.38	90.00
C17	Top	472.05	415.82	270.00
C18	Top	461.93	452.23	180.00
C19	Top	461.23	411.60	180.00
C20	Top	527.30	429.75	270.00
C21	Top	501.43	412.68	180.00
C22	Top	524.23	393.38	270.00
C23	Top	541.63	401.23	270.00
C24	Top	539.05	459.05	90.00
C25	Top	459.45	464.60	270.00
C26	Top	483.75	446.90	180.00
C28	Top	530.75	431.85	0.00
C29	Top	510.75	437.88	90.00
C30	Top	511.38	433.00	0.00
C31	Top	531.95	450.15	0.00
C32	Top	513.45	455.02	0.00
C33	Top	511.55	454.98	180.00
C34	Top	509.35	433.02	180.00
C35	Top	532.55	431.75	180.00
C36	Top	533.83	450.07	180.00
C37	Top	492.02	460.93	90.00
C38	Top	500.15	390.52	90.00
C39	Top	503.25	398.93	0.00
C40	Top	543.88	443.43	180.00
C47	Top	484.80	436.60	270.00
C49	Top	472.00	392.55	270.00
C50	Top	505.32	384.85	0.00
D1	Top	490.43	391.50	270.00
D3	Top	490.43	387.90	270.00
D4	Top	548.38	464.13	90.00
D5	Top	522.73	384.32	270.00
D6	Top	518.52	384.27	270.00

D7	Top	551.77	464.15	90.00
D8	Top	472.23	419.77	270.00
D10	Top	545.60	404.77	90.00
D15	Top	489.55	439.02	90.00
F1	Top	462.70	382.88	0.00
F2	Top	551.10	447.23	180.00
F3	Top	492.27	384.07	0.00
J1	Top	542.73	461.80	180.00
J2	Top	493.90	395.27	0.00
J4	Top	526.33	461.65	180.00
J5	Top	457.38	458.45	270.00
J6	Top	515.20	421.57	0.00
J8	Top	455.77	395.63	270.00
J9	Top	533.00	421.57	0.00
J14	Top	480.15	439.15	270.00
L1	Top	460.77	387.30	0.00
L2	Top	457.63	387.27	0.00
L3	Top	480.75	395.43	90.00
L4	Top	471.75	411.55	90.00
L5	Top	550.13	439.85	180.00
L6	Top	498.77	383.40	90.00
L7	Top	508.20	388.65	90.00
L8	Top	538.60	395.18	270.00
LCD1	Bottom	549.60	441.18	0.00
LED1	Top	495.30	423.68	0.00
LED2	Top	495.32	419.20	0.00
LED3	Top	527.35	395.82	90.00
LED4	Top	520.88	395.82	90.00
Q1	Top	545.55	458.27	0.00
Q2	Top	490.48	423.68	270.00
Q3	Top	506.18	402.98	180.00
Q4	Top	498.30	403.20	270.00
Q5	Top	502.15	458.10	90.00
Q6	Top	484.82	455.13	90.00
Q7	Top	492.35	403.18	270.00
Q8	Top	550.50	458.57	0.00
Q9	Top	541.85	452.85	0.00
Q10	Top	537.40	452.85	0.00
Q11	Top	541.85	456.18	180.00
Q12	Top	537.40	456.23	180.00
Q13	Top	487.55	460.15	0.00
Q14	Top	486.15	465.80	0.00
Q15	Top	492.35	465.75	0.00
R1	Top	546.05	431.25	90.00
R2	Top	490.65	407.38	90.00
R3	Top	465.88	397.77	180.00
R4	Top	465.82	394.65	0.00
R5	Top	546.08	428.73	90.00
R6	Top	490.57	398.80	90.00
R7	Top	489.80	403.23	180.00
R8	Top	498.73	386.05	90.00
R9	Top	508.93	379.88	270.00

R10	Top	508.93	381.25	90.00
R11	Top	525.73	384.82	180.00
R12	Top	546.13	426.23	90.00
R13	Top	472.05	414.02	270.00
R14	Top	465.13	388.57	180.00
R15	Top	546.13	423.60	90.00
R16	Top	499.52	419.25	180.00
R17	Top	499.55	423.75	180.00
R18	Top	484.80	437.88	90.00
R19	Top	484.80	440.45	90.00
R20	Top	484.75	441.75	90.00
R21	Top	510.90	403.18	0.00
R22	Top	517.30	403.15	0.00
R23	Top	518.92	403.15	180.00
R24	Top	520.42	403.13	0.00
R25	Top	546.13	418.55	90.00
R26	Top	546.10	416.00	90.00
R27	Top	546.02	410.95	270.00
R28	Top	490.57	400.27	270.00
R29	Top	546.05	413.45	270.00
R30	Top	546.13	421.10	270.00
R31	Top	509.13	403.20	0.00
R32	Top	495.80	403.27	180.00
R33	Top	505.00	458.13	0.00
R34	Top	498.57	458.15	90.00
R35	Top	495.60	447.63	180.00
R36	Top	499.90	447.63	180.00
R37	Top	459.13	411.60	0.00
R38	Top	541.63	402.65	270.00
R39	Top	541.63	404.15	270.00
R40	Top	536.58	439.48	270.00
R41	Top	536.58	440.80	270.00
R42	Top	536.58	438.07	270.00
R44	Top	506.68	412.65	0.00
R45	Top	551.42	453.55	180.00
R46	Top	496.65	389.00	90.00
R47	Top	500.18	389.05	90.00
R48	Top	541.90	450.48	270.00
R49	Top	537.35	450.38	270.00
R50	Top	483.98	460.18	0.00
R51	Top	523.30	428.90	0.00
R52	Top	524.98	428.90	0.00
R53	Top	511.35	442.95	270.00
R54	Top	494.25	447.63	0.00
R55	Top	516.30	453.32	0.00
R56	Top	493.95	400.25	270.00
R57	Top	500.15	392.07	270.00
R58	Top	496.60	390.55	90.00
R59	Top	510.75	439.27	90.00
R60	Top	524.17	400.30	90.00
R61	Top	545.55	455.75	270.00
R62	Top	492.07	459.63	90.00

R63	Top	484.02	465.80	180.00
R64	Top	490.30	465.73	180.00
R65	Top	498.57	447.63	0.00
R66	Top	510.98	447.75	270.00
R67	Top	536.60	445.68	270.00
R71	Top	548.20	458.48	0.00
U1	Top	472.02	395.93	90.00
U2	Top	508.30	384.75	0.00
U3	Top	522.35	441.77	0.00
U4	Top	482.02	452.52	180.00
U5	Top	500.48	398.80	0.00
U7	Top	537.05	402.77	90.00
U9	Top	504.05	412.93	0.00
U10	Top	524.15	397.65	180.00
U11	Top	497.07	452.93	270.00
U12	Top	489.68	449.88	315.00
U13	Top	514.23	403.27	270.00
U14	Top	456.10	411.50	90.00
Y1	Top	508.77	444.20	180.00

REF34



SCALE 1:1

COMPANY	DATE	TITLE	DESIGNER AUTHOR
ZENNER GAS s.r.l. - ITALY	16 feb 2017	Elettrovalvola+temp. BK04ZENNER01	ing. Luca D´Ambrosio

Doc no	11198/0-07
Page	1 of 1

0106031154316 (BOM)

Component Report : ELETTROVALVOLA + TEMP. BK04ZENNER01

Author and designer : ing. Luca D'Ambrosio
Report Written: Tuesday, June 05, 2018
Project Path: Y:\PCB\0106031154316(tempdig00)\0106031154316.prj
Design Path: Y:\PCB\0106031154316(tempdig00)\0106031154316.pcb
Design Title:
Created: 30/09/2015 17:01:19
Last Saved: 05/06/2018 09:24:31
Editing Time: 7719 min
Units: mm (precision 2)

DISTINTA BASE

CAC	Qty	Component	Mfr PN
0106030153716	2	TMP1305	TMP1305
0106030154116	1	PCT2075D	PCT2075D
0106031002505	3	C 100nF 0603	0603YC104KAT2A
0106031171618	1	ZIF 1x10 0.50 molex	527451033
	7		

DISTINTA PER PIAZZAMENTO

CAC	Qty	Component	Ref Name
0106030153716	1	TMP1305	U2
	1	TMP1305	U3
0106030154116	1	PCT2075D	U1
0106031002505	1	C 100nF 0603	C1
	1	C 100nF 0603	C2
	1	C 100nF 0603	C3
0106031171618	1	ZIF 1x10 0.50 molex	J1
	7		