

RXA01M

8-ZONE INDUSTRIAL CONTROL UNIT

- Power supply 230V~ or 12Vdc
- Possibility of connecting a Backup system
- Possibility of connecting up to 8 4...20mA gas transmitters
- **Nor** (Normal) or **Rev** (Reverse) relay logic set-up
- Pre-alarm and Alarm thresholds set-up on two ranges
- Enabling/Disabling of each individual input
- Visual and acoustic signals in case of abnormal events
- Conforms with EMC 2014/30/EU, LVD 2014/35/EU and RoHS2 2011/65/EU



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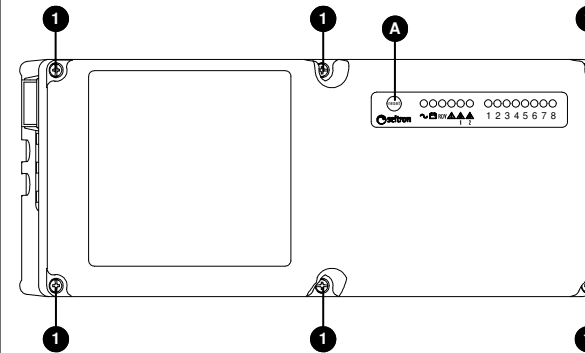


Fig. 1: External aspect.

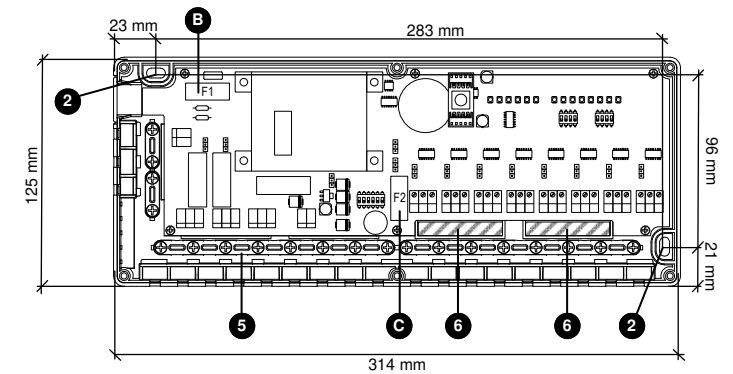


Fig. 2: Internal view and parts.

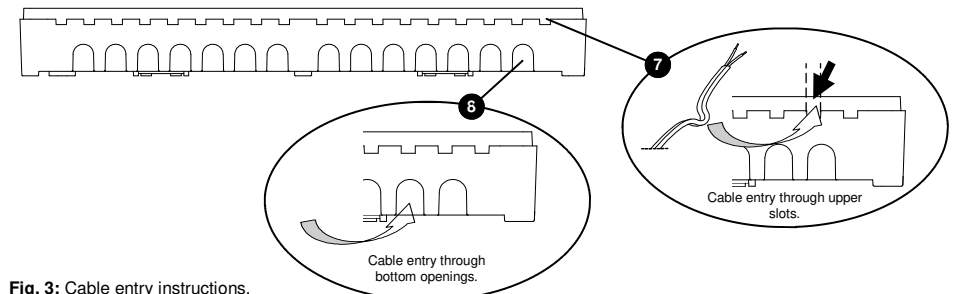


Fig. 3: Cable entry instructions.



WARNING

- This control unit IS NOT suitable for installation in ATEX classified zones.
- We strongly recommend using shielded cables if installed in environments with strong EMC disturbances.
- This device must be installed and the electric connections made by qualified technicians and in compliance with the technical and safety standards in force.
- Connect the device to the power mains using a two-pole switch that conforms with the standards in force and with an opening distance of the contacts of at least 3 mm in each pole.
- Make sure to disconnect power to the plant before making the electric connections on the control unit.
- The installer is responsible for setting up a detection system conform with existing National and European standards and for choosing adequate load types to connect to the control unit, as well as correctly configure the system parameters. Contact the distributor if in doubt.

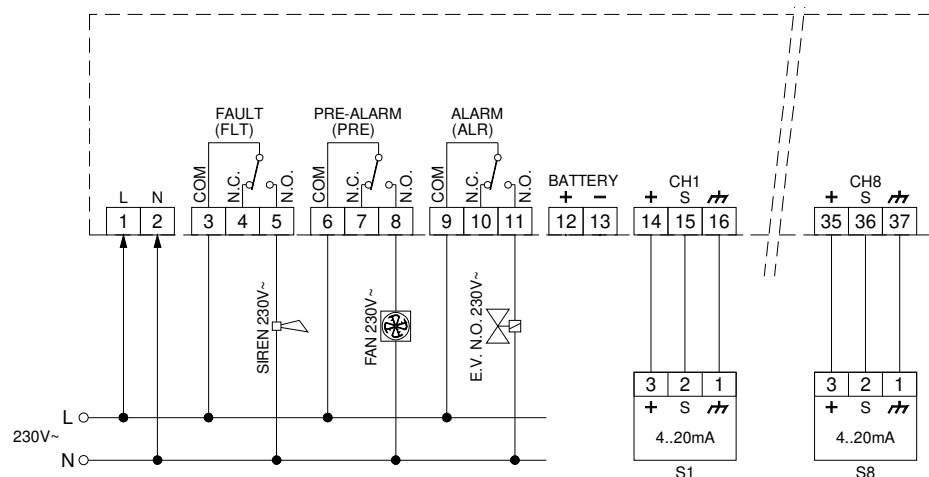


Fig. 4: Diagram of connection with control unit powered at 230V~.

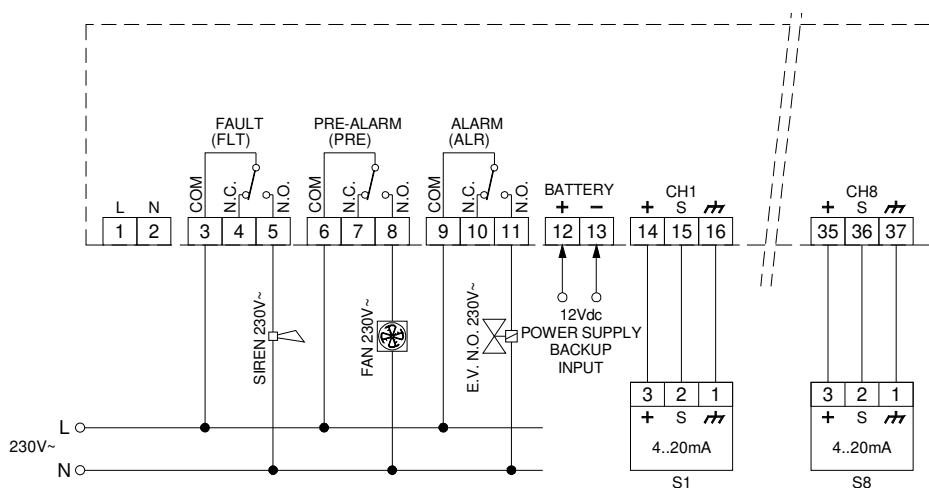


Fig. 5: Diagram of connection with control unit powered through an external 12Vdc power supply unit with buffer battery.

powered by the same source at 12Vdc, this must be able to provide adequate current, therefore have adequate power, equal or greater than the total power absorbed by the system. The power source with 8 devices connected must, therefore, be able to continuously supply at least 1A. The electronic circuit is protected by two 1A quick fuses.

F1 (⊗ of Fig. 2) protects the control unit power supply at 230V~ **F2** (⊙ of Fig. 2) protects the power supply of transmitters only.

The PRE, ALR and FLT outputs have exchange contacts and can be used to drive generic loads such as a siren or a flashing device or, based on the configured system, a gas shut-off solenoid valve.

Please note that all control units are free from voltage; they do not supply power to the loads giving the user greater freedom to use loads with different operation voltages.

Inputs CH1, CH2, ..., CH8 are used to connect the transmitters to the control unit.

The maximum number of transmitters that can be connected to the control unit is 8 and they must be of 4..20mA output type.

TECHNICAL FEATURES

Power supply:	230V~ -15% +10% 50/60 Hz or 12Vdc ±15% (through external power supply unit with buffer battery)
Absorption:	24VA - with 230V~ power supply and 8 transmitters connected or 20W - with 12Vdc power supply and 8 transmitters connected
Fuses (F1 and F2):	1AF (quick - 5x20 format)
Type of transmitters:	4..20mA Transmitters (SX series) for fuel gas, such as Methane, Petrol vapour and LPG (50% or 100% L.E.L.) or toxic, such as CO (500ppm).
Pre-alarm threshold field:	See table 1 on page 5
Alarm threshold field:	See table 1 on page 5
Contacts capacity:	3 x 5A 250V~ SPDT Contact free from voltage
Protection rating:	IP 20
Operating temp.:	0°C .. 40°C
Storage temp.:	-10°C .. +50°C
Humidity limits:	20% .. 80% RH (non-condensing)
Enclosure: Material:	ABS UL-V0 self-extinguishing
Colour:	Signal White (RAL 9003)
Weight:	~ 1350 gr.

TROUBLESHOOTING

SIGN	PROBABLE CAUSE	SOLUTION
LED '~' does not switch on although the control unit is powered at 230V~.	Fuse F1 is blown (⊗ of Fig. 2); one or more loads connected at 230V have caused a short-circuit.	Replace fuse F1 with an equivalent one, same type and capacity (see technical features) and verify the
The red LEDs from 1 to 8 and the yellow LED '△' are on.	Fuse F2 is blown (⊙ of Fig. 2); one or more faulty transmitters have caused a short-circuit.	Replace fuse F2 with an equivalent one, same type and capacity (see technical features) and verify the

WARRANTY

In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice. The consumer is guaranteed against any lack of conformity according to the European Directive 1999/44/EC as well as to the manufacturer's document about the warranty policy. The full text of warranty is available on request from the seller.

GENERAL INFORMATION

This device is a gas control unit equipped with 3 Outputs with exchange contacts (pre-alarm, alarm and fault relay) able to configure and control up to 8 gas concentration transmitters, carbon monoxide (CO), Methane, Petrol vapour and L.P.G., with 4...20mA output.

The control unit and transmitters' status (normal operation, pre-alarm, alarm or fault) will be shown through the LEDs on the front.

START-UP

OUTPUTS SWITCH-ON AND ACTIVATION

LED '△' o '△' flashes for 50 seconds indicating the pre-heating phase of the transmitters, upon application of power supply, based on the applied power supply.

The Pre-alarm, Alarm and Fault outputs are deactivated during this phase.

LED '△' o '△' remains on with permanent light after the pre-heating time.

Activating the outputs is characterised by switching on the 'RDY' LED, in accordance with the set-up made on connector JP4 (see page 3).

RESET KEY (A of Fig. 1)

The use of this key located on the front (Fig. 1) depends on the 'LATCH' dip-switches made set-up and of connector 'JP4' (see paragraph 'JUMPER AND DIP-SWITCH SET-UP').

If enabled, keeping it pressed for at least 5 seconds in either case restores the control unit to normal operation after an abnormal event or black-out.

ACOUSTIC SIGNALS

The control unit is fitted with an internal buzzer allowing it to emit acoustic signals should an abnormal event be detected. The user cannot exclude the acoustic signals.

TRANSMITTERS STATUS DISPLAY

By switching on LEDs from 1 to 8, together with LEDs '△' '△' '△' '△' '△' '△' '△' '△' on the front cover, the control unit signals the status of the connected transmitters.

The LED number corresponds to the relative CH- output number (e.g. LED 1 corresponds to output CH1).

Pre-alarm Status ('△' red LED on)

This status is activated if a transmitter sends a greater gas concentration level than the set Pre-alarm threshold. Activating the Pre-alarm status activates the Pre-alarm relay (PRE).

This status is signalled by switching on the red LED '△', by switching on the red LED corresponding to the input to which the transmitter that detected the abnormal event is connected and by the activation of the buzzer with intermittent sound.

The control unit continues to supervise the system.

Alarm Status ('△' red LED on)

This status is activated if a transmitter sends a greater gas concentration level than the set Alarm threshold. Activating the Alarm status activates the Pre-alarm relay (ALR).

This status is signalled by switching on the red LED '△', by switching on the red LED corresponding to the input to which the transmitter that detected the abnormal event is connected and by the activation of the buzzer with continuous sound.

The control unit continues to supervise the system.

Fault Status (yellow LED '△' on)

This status is activated if a transmitter sends a Fault signal to the control unit. Activating the Fault status activates the

Pre-alarm relay (FLT).

This status is signalled by switching on the yellow LED '△', by switching on the red LED corresponding to the input to which the transmitter that detected the abnormal event is connected and by the activation of the buzzer with continuous sound.

The control unit continues to supervise the system.

BACK-UP SYSTEM

To guarantee the highest safety level, the control unit can be powered through an external 12Vdc power supply unit with buffer battery that assures operation even in case of a black-out.

In this case, the power supply LED '△' is always off.

For the electrical wirings please read the paragraph 'Electrical connections'.

PERIODIC CHECK

We recommend periodically checking the proper operation of the entire detection system, control unit + transmitters, by applying gas to each transmitter and checking the displayed value.

Refer to the regulation in force in the country of installation.

INSTALLATION

Carry out the operations below to install the device:

- Remove the 6 screws indicated in 1 Fig. 1 and remove the front panel.

- Fix the device base to the wall using the two holes for screws indicated in 2 Fig. 2

Carefully check that the circuit is disconnected from the 230V~ power mains while working with tools near the electric parts, and make sure not to damage the circuit or the surrounding components.

- Make the electric connections as indicated in the paragraph 'Electric connections' in accordance with the diagrams in Fig. 4 and Fig. 5.

- The cables can be introduced in three ways:

Cables enter from rear 6:

Using a screwdriver, remove the base wedges as indicated in 6 Fig. 2. Now introduce the cables through the openings in the base, up to the clamps.

Cables enter from the lower edge (slots between lid and base) 7:

Using suitable pliers, remove the plastic tooth indicated by the arrow in 7 Fig. 3 and, after having connected the cable to the proper clamp, bend it as indicated in Fig. 3, lock the cables using the specific cable clamps.

Cables enter from the lower edge (cracks on base) 8:

Pass the cables through the lower slots 8 of Fig. 3. Connect the cables to the right clamps and lock the cables with the specific cable clamps.

- Close the device by placing the front back on the container and fixing the six fastening screws.

ELECTRICAL CONNECTIONS

Carefully read below and compare with the wiring diagram of Fig. 4 showing the disposition of the terminals, the internal circuit and the connections with the external components.

The control unit can be powered with 230V~ through terminals L and N (making sure terminal N is connected to Neutral) or with 12Vdc connecting an external power supply unit with buffer battery to the 'BATTERY' terminals (respect polarity).

Warning: the control unit does not supply current to the 'BATTERY' terminals (it does not charge the battery wired to it).

Should the control unit and the connected transmitters be

JUMPER AND DIP-SWITCH SET-UP

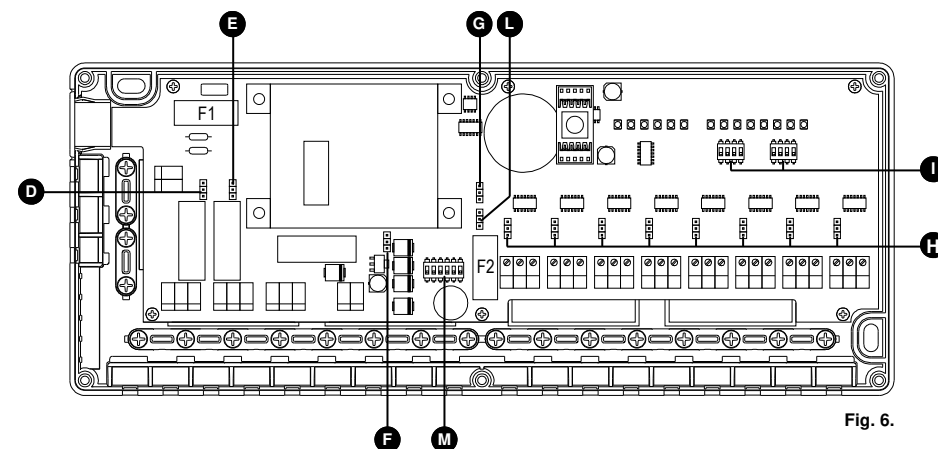


Fig. 6.

D JP1 Connector - Fault relay logic set-up

JP1 FLT	
NOR	<input checked="" type="checkbox"/> NORmal relay logic (default). COM - N.O.: normally open. COM - N.C.: normally closed.
REV	<input type="checkbox"/>

JP1 FLT	
NOR	<input type="checkbox"/> REVERsed relay logic. COM - N.O.: normally closed. COM - N.C.: normally open.
REV	<input checked="" type="checkbox"/>

E JP2 Connector - Pre-alarm relay logic set-up

JP2 PRE	
NOR	<input checked="" type="checkbox"/> NORmal relay logic (default). COM - N.O.: normally open. COM - N.C.: normally closed.
REV	<input type="checkbox"/>

JP2 PRE	
NOR	<input type="checkbox"/> REVERsed relay logic. COM - N.O.: normally closed. COM - N.C.: normally open.
REV	<input checked="" type="checkbox"/>

F JP3 Connector - Alarm relay logic set-up

JP3	
ALR NOR	<input checked="" type="checkbox"/> NORmal relay logic (default). COM - N.O.: normally open. COM - N.C.: normally closed.
REV	<input type="checkbox"/>

JP3	
ALR NOR	<input type="checkbox"/> REVERsed relay logic. COM - N.O.: normally closed. COM - N.C.: normally open.
REV	<input checked="" type="checkbox"/>

G JP4 Connector: Power Up set-up

Sets the method of activation of the outputs (pre-alarm, alarm and fault) upon application of power supply or after a black-out.

PWR UP	OFF <input checked="" type="checkbox"/>	The outputs are automatically enabled after the pre-heating time.
ON	<input type="checkbox"/>	

PWR UP	OFF <input type="checkbox"/>	The outputs are enabled after the pre-heating time, only if the operator presses the 'reset' key for about 5 seconds.
ON	<input checked="" type="checkbox"/>	Set this mode if human intervention is requested to reset operation after a black-out.

Switching on of the green LED 'RDY' located on the front, indicates that the outputs are active and the control unit ready to control the entire system.

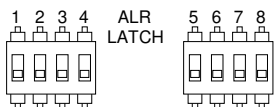
H Connectors for enabling the CH1 .. CH8 inputs

Each input is fitted with a connector that, if adequately set, enables or disables the relative input. Should an input be unused (is not connected to a transmitter) it must be disabled, otherwise the control unit will signal an alarm status for that input. These connectors are placed above the terminals of the relative input (see figure).

INH	<input checked="" type="checkbox"/>	Channel disabled - INH - (default).
ACT	<input type="checkbox"/>	
JP--		

INH	<input type="checkbox"/>	Channel enabled - ACT -.
ACT	<input checked="" type="checkbox"/>	
JP--		

1 DIP-SWITCH LATCH - alarm status memory set-up



The alarm status memory can be set for each input through the 'LATCH' dip-switches.

This function controls the alarm output (ALR) and the visual and acoustic indications.

Each dip-switch corresponds to relative input: e.g. dip-switch no. 1 corresponds to input CH1, dip-switch no. 2 corresponds to input CH2, and so on.

Note

- ▲ : dip-switch positioned at ON (upwards)
- ▼ : dip-switch positioned at OFF (downwards)

DIP-SWITCH 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8

▲ Should the gas concentration drop below the set alarm threshold, with the dip-switch set at ON mode the alarm relay, the relative LEDs and the buzzer will go back to normal operation status only if the Reset key is pressed for 5 seconds.

Set this mode if human intervention is requested to reset operation after an alarm status has been detected.

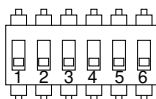
▼ Should the gas concentration drop below the set alarm threshold, with the dip-switch set at OFF mode (default setting) the alarm relay, the relative LEDs and the buzzer will automatically go back to normal operation status.

L JP5 Connectors: pre-alarm and alarm thresholds range set-up

RANGE X1 **Pre-Alarm and Alarm X1 Range (mA).**
See table 1.

RANGE X2 **Pre-Alarm and Alarm X2 Range (mA).**
See table 1.

M DIP-SWITCH - Pre-alarm and Alarm thresholds set-up.



The Pre-alarm and Alarm thresholds that will be applied to all connected transmitters can be set using these dip-switches.

The thresholds are expressed in mA regardless of the type of gas detected by the connected transmitters (LPG, METHANE, Petrol vapour and CO).

The Pre-alarm threshold is set through the number 1, 2 and 3 dip-switches combination, while the Alarm threshold is set through the number 4, 5 and 6 dip-switches combination.

The Alarm threshold value is always greater than the Pre-alarm threshold one.

The table on page 5 shows the Pre-alarm and Alarm thresholds values that can be set (X1 o X2).



WARNING

Since different transmitters with 4..20mA output can be wired to the Control Unit, with different full range and detected gas, all thresholds are meant in mA.

Setting example

The wired transmitter has different full range and detected gas.

The installer needs to set the prealarm threshold at:

4% L.E.L., for 0..50%L.E.L. full scale transmitters

10% L.E.L., for 0..100%L.E.L. full scale transmitters

50ppm, for 0..500ppm full scale transmitters

Proceed as follows:

1. Set the Prealarm threshold.

The prealarm threshold to set must be a trade-off between the desired value and those who can be actually set, as shown in table 1.

In this example, assuming as a priority the 4% level, the actual values which can be set and which are closest to the desired value are:

4% L.I.E., for 0..50%L.E.L. full scale transmitters

8% L.I.E., for 0..100%L.E.L. full scale transmitters

40ppm, for 0..500ppm full scale transmitters

2. Set the Alarm threshold.

In this case the alarm threshold to be set, read in table 1 in the two ranges **X1** and **X2**, is placed between the following values:

DIP-SWITCH SET-UP		RANGE X1									
		PRE-ALARM THRESHOLD					ALARM THRESHOLD				
		TRANSMITTER TYPE					TRANSMITTER TYPE				
		Current (mA)	0.50%	1.00%	0.500 ppm		Current (mA)	0.50%	1.00%	0.500 ppm	
1	2	3	4	5	6						
▼▼▼▲▲▲	5,28	4	8	40	5,92	5	10	50			
▼▲▲▲▲	5,28	4	8	40	6,56	6	12	60			
▼▼▲▲▲	5,28	4	6	40	6,24	7	14	70			
▼▲▲▲▲	5,28	4	8	10	6,56	8	16	80			
▼▼▲▲▲	5,28	4	6	40	6,88	9	18	90			
▼▲▲▲▲	5,28	4	8	40	7,20	10	20	100			
▼▼▲▲▲	5,28	4	8	40	7,52	11	22	110			
▼▲▲▲▲	5,28	4	6	40	7,84	12	24	120			

Or

DIP-SWITCH SET-UP		RANGE X2																	
		PRE-ALARM THRESHOLD					ALARM THRESHOLD												
		TRANSMITTER TYPE					TRANSMITTER TYPE												
		Current (mA)	0.50% L.E.L	1.00% L.E.L	0.500 ppm		Current (mA)	0.50% L.E.L	1.00% L.E.L	0.500 ppm									
1	2	3	4	5	6														
▼▲▲▲▲▲	5,28	4	8	40	5,92	5	12	60											
▼▲▲▲▲▲	5,28	4	8	40	6,56	8	16	80											
▼▲▲▲▲▲	5,28	4	8	40	7,20	10	20	100											
▼▲▲▲▲▲	5,28	4	8	40	7,84	12	24	120											
▼▲▲▲▲▲	5,28	4	8	40	8,48	14	28	140											
▼▲▲▲▲▲	5,28	4	8	40	9,12	16	32	160											
▼▲▲▲▲▲	5,28	4	8	40	9,76	18	36	180											
▼▲▲▲▲▲	5,28	4	8	40	10,40	20	40	200											

When the outlined choice is selected:

16% L.I.E., for 0..50%L.E.L. full scale transmitters

32% L.I.E., for 0..100%L.E.L. full scale transmitters

160ppm, for 0..500ppm full scale transmitters

set the jumper **JP5** on **X2** and set the pins of the dip-switch as shown in the table.

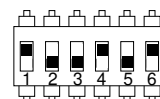


TABLE 1: Pre-alarm and Alarm thresholds set-up.

Note: ▲ = dip-switch positioned at ON (upwards)
▼ = dip-switch positioned at OFF (downwards)

DIP-SWITCH SET-UP						RANGE X1										RANGE X2									
						PRE-ALARM THRESHOLD					ALARM THRESHOLD					PRE-ALARM THRESHOLD					ALARM THRESHOLD				
						Current (mA)		TRANSMITTER TYPE			Current (mA)		TRANSMITTER TYPE			Current (mA)		TRANSMITTER TYPE			Current (mA)		TRANSMITTER TYPE		
1	2	3	4	5	6	0.50% L.E.L.	0.100% L.E.L.	0.500 ppm	Current (mA)	0.50% L.E.L.	0.100% L.E.L.	0.500 ppm	Current (mA)	0.50% L.E.L.	0.100% L.E.L.	0.500 ppm	Current (mA)	0.50% L.E.L.	0.100% L.E.L.	0.500 ppm	Current (mA)	0.50% L.E.L.	0.100% L.E.L.	0.500 ppm	
▲▲▲▲▲▲	4.32	1	2	2	10	4.64	2	4	20	4.64	2	4	20	4.64	2	4	20	5.28	4	8	40	5.28	4	8	40
▲▲▲▲▲▲	4.32	1	2	2	10	4.96	3	6	30	4.96	3	6	30	4.64	2	4	20	5.62	6	12	60	5.62	6	12	60
▲▲▲▲▲▲	4.32	1	2	2	10	5.28	4	8	40	5.28	4	8	40	4.64	2	4	20	5.92	8	16	80	5.92	8	16	80
▲▲▲▲▲▲	4.32	1	2	2	10	5.60	5	10	50	5.60	5	10	50	4.64	2	4	20	6.24	10	20	100	6.24	10	20	100
▲▲▲▲▲▲	4.32	1	2	2	10	5.92	6	12	60	5.92	6	12	60	4.64	2	4	20	6.56	12	24	120	6.56	12	24	120
▲▲▲▲▲▲	4.32	1	2	2	10	6.24	7	14	70	6.24	7	14	70	4.64	2	4	20	6.88	14	28	140	6.88	14	28	140
▲▲▲▲▲▲	4.32	1	2	2	10	6.56	8	16	80	6.56	8	16	80	4.64	2	4	20	7.20	16	32	160	7.20	16	32	160
▲▲▲▲▲▲	4.32	1	2	2	10	6.88	9	18	90	6.88	9	18	90	4.64	2	4	20	7.52	18	36	180	7.52	18	36	180
▲▲▲▲▲▲	4.32	1	2	2	10	7.20	10	20	100	7.20	10	20	100	4.64	2	4	20	7.84	20	40	200	7.84	20	40	200
▲▲▲▲▲▲	4.32	1	2	2	10	7.52	11	22	110	7.52	11	22	110	4.64	2	4	20	8.16	22	44	220	8.16	22	44	220
▲▲▲▲▲▲	4.32	1	2	2	10	7.84	12	24	120	7.84	12	24	120	4.64	2	4	20	8.48	24	48	240	8.48	24	48	240
▲▲▲▲▲▲	4.32	1	2	2	10	8.16	13	26	130	8.16	13	26	130	4.64	2	4	20	8.80	26	52	260	8.80	26	52	260
▲▲▲▲▲▲	4.32	1	2	2	10	8.48	14	28	140	8.48	14	28	140	4.64	2	4	20	9.12	28	56	280	9.12	28	56	280
▲▲▲▲▲▲	4.32	1	2	2	10	8.80	15	30	150	8.80	15	30	150	4.64	2	4	20	9.44	30	60	300	9.44	30	60	300
▲▲▲▲▲▲	4.32	1	2	2	10	9.12	16	32	160	9.12	16	32	160	4.64	2	4	20	9.76	32	64	320	9.76	32	64	320
▲▲▲▲▲▲	4.32	1	2	2	10	9.44	17	34	170	9.44	17	34	170	4.64	2	4	20	10.08	34	68	340	10.08	34	68	340
▲▲▲▲▲▲	4.32	1	2	2	10	9.76	18	36	180	9.76	18	36	180	4.64	2	4	20	10.40	36	72	360	10.40	36	72	360
▲▲▲▲▲▲	4.32	1	2	2	10	10.08	19	38	190	10.08	19	38	190	4.64	2	4	20	10.72	38	76	380	10.72	38	76	380
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▲▲▲▲▲▲	4.32	1	2	2	10	10.72	21	42	210	10.72	21	42	210	4.64	2	4	20	11.36	42	84	420	11.36	42	84	420
▲▲▲▲▲▲	4.32	1	2	2	10	11.04	22	44	220	11.04	22	44	220	4.64	2	4	20	11.68	44	88	440	11.68	44	88	440
▲▲▲▲▲▲	4.32	1	2	2	10	11.36	23	46	230	11.36	23	46	230	4.64	2	4	20	12.00	46	92	460	12.00	46	92	460
▲▲▲▲▲▲	4.32	1	2	2	10	11.68	24	48	240	11.68	24	48	240	4.64	2	4	20	12.32	48	96	480	12.32	48	96	480
▲▲▲▲▲▲	4.32	1	2	2	10	12.00	25	50	250	12.00	25	50	250	4.64	2	4	20	12.64	50	100	500	12.64	50	100	500
▲▲▲▲▲▲	4.32	1	2	2	10	12.32	26	52	260	12.32	26	52	260	4.64	2	4	20	12.96	52	104	520	12.96	52	104	520
▲▲▲▲▲▲	4.32	1	2	2	10	12.64	27	54	270	12.64	27	54	270	4.64	2	4	20	13.28	54	108	540	13.28	54	108	540
▲▲▲▲▲▲	4.32	1	2	2	10	12.96	28	56	280	12.96	28	56	280	4.64	2	4	20	13.60	56	112	560	13.60	56	112	560
▲▲▲▲▲▲	4.32	1	2	2	10	13.28	29	58	290	13.28	29	58	290	4.64	2	4	20	13.92	58	116	580	13.92	58	116	580
▲▲▲▲▲▲	4.32	1	2	2	10	13.60	30	60	300	13.60	30	60	300	4.64	2	4	20	14.24	60	120	600	14.24	60	120	600
▲▲▲▲▲▲	4.32	1	2	2	10	13.92	31	62	310	13.92	31	62	310	4.64	2	4	20	14.56	62	124	620	14.56	62	124	620
▲▲▲▲▲▲	4.32	1	2	2	10	14.24	32	64	320	14.24	32	64	320	4.64	2	4	20	14.88	64	128	640	14.88	64	128	640
▲▲▲▲▲▲	4.32	1	2	2	10	14.56	33	66	330	14.56	33	66	330	4.64	2	4	20	15.20	66	132	660	15.20	66	132	660
▲▲▲▲▲▲	4.32	1	2	2	10	14.88	34	68	340	14.88	34	68	340	4.64	2	4	20	15.52	68	136	680	15.52	68	136	680
▲▲▲▲▲▲	4.32	1	2	2	10	15.20	35	70	350	15.20	35	70	350	4.64	2	4	20	15.84	70	140	700	15.84	70	140	700
▲▲▲▲▲▲	4.32	1	2	2	10	15.52	36	72	360	15.52	36	72	360	4.64	2	4	20	16.16	72	144	720	16.16	72	144	720
▲▲▲▲▲▲	4.32	1	2	2	10	15.84	37	74	370	15.84	37	74	370	4.64	2	4	20	16.48	74	148	740	16.48	74	148	740
▲▲▲▲▲▲	4.32	1	2	2	10	16.16	38	76	380	16.16	38	76	380	4.64	2	4	20	16.80	76	152	760	16.80	76	152	760
▲▲▲▲▲▲	4.32	1	2	2	10	16.48	39	78	390	16.48	39	78	390	4.64	2	4	20	17.12	78	156	780	17.12	78	156	780
▲▲▲▲▲▲	4.32	1	2	2	10	16.80	40	80	400	16.80	40	80	400	4.64	2	4	20	17.44	80	160	800	17.44	80	160	800
▲▲▲▲▲▲	4.32	1	2	2	10	17.12	41	82	410	17.12	41	82	410	4.64	2	4	20	17.76	82	164	820	17.76	82	164	820
▲▲▲▲▲▲	4.32	1	2	2	10	17.44	42	84	420	17.44	42	84	420	4.64	2	4	20	18.08	84	168	840	18.08	84	168	840
▲▲▲▲▲▲	4.32	1	2	2	10	17.76	43	86	430	17.76	43	86	430	4.64	2	4	20	18.40	86	172	860	18.40	86	172	860
▲▲▲▲▲▲	4.32	1	2	2	10	18.08	44	88	440	18.08	44	88	440	4.64	2	4	20	18.72	88	176	880	18.72	88	176	880
▲▲▲▲▲▲	4.32	1	2	2	10	18.40	45	90	450	18.40	45	90	450	4.64	2	4	20	19.04	90	180	900	19.04	90	180	900
▲▲▲▲▲▲	4.32	1	2	2	10	18.72	46	92	460	18.72	46	92	460	4.64	2	4	20	19.36	92	184	920	19.36	92	184	920
▲▲▲▲▲▲	4.32	1	2	2	10	19.04	47	94	470	19.04	47	94	470	4.64	2	4	20	19.68	94	188	940	19.68	94	188	940
▲▲▲▲▲▲	4.32	1	2	2	10	19.36	48	96	480	19.36	48	96	480	4.64	2	4	20	20.00	96	192	960	20.00	96	192	960
▲▲▲▲▲▲	4.32	1	2	2	10	19.68	49	98	490	19.68	49	98	490	4.64	2	4	20	20.32	98	196	980	20.32	98	196	980
▲▲▲▲▲▲	4.32	1	2	2	10	20.00	50	100	500	20.00	50	100	500	4.64	2	4	20	20.64	100	200	1000	20.64	100	200	1000
▲▲▲▲▲▲	4.32	1	2	2	10	20.32	51	102	510	20.32	51	102	510	4.64	2	4	20	20.96	102	204	1020	20.96	102	204	1020
▲▲▲▲▲▲	4.32	1	2	2	10	20.64	52	104	520	20.64	52	104	520	4.64	2	4	20	21.28	104	208	1040	21.28	104	208	1040
▲▲▲▲▲▲	4.32	1	2	2	10	20.96	53	106	530	20.96	53	106	530	4.64	2	4	20	21.60	106	212	1060	21.60	106	212	1060
▲▲▲▲▲▲	4.32	1	2	2	10	21.28	54	108	540	21.28	54	108	540	4.64	2	4	20	21.92	108	216	1080	21.92	108	216	1080
▲▲▲▲▲▲	4.32	1	2	2	10	21.60	55	110	550	21.60	55	110	550	4.64	2	4	20	22.24	110	220	1100	22.24	110	220	1100
▲▲▲▲▲▲	4.32	1	2	2	10	21.92	56	112	560	21.92	56	112	560	4.64	2	4	20	22.56	112	224	1120	22.56	112	224	1120
▲▲▲▲▲▲	4.32	1	2	2	10	22.24	57	114	570	22.24	57	114	570	4.64	2	4	20	22.88	114	228	1140	22.88	114	228	1140
▲▲▲▲▲▲	4.32	1	2	2	10	22.56	58	116	580	22.56	58	116	580	4.64	2	4	20	23.20	116	232	1160	23.20	116	232	1160
▲▲▲▲▲▲	4.32	1	2	2	10	22.88	59	118	590	22.88	59	118	590	4.64	2	4	20	23.52	118	236	1180				