LoRaWAN™
BK-G PULSE READER
CM3060

LoRaWAN™ Pulser BK-G Elster diaphragm gas meters BK-G1,6 to BK-G100 that are equipped with the index Z3/Z6 and transmits it wirelessly to the LoRaWAN™ network.

LoRaWAN™ Pulser BK-G is meant to be connected to the existing gas meter's pulse output. It is powered by a long-life battery.

OVERVIEW

Efficient

LoRaWAN™ Pulser BK-G has a bidirectional, battery powered, long-range transceiver with low power consumption.

Intelligent

Real-time usage data is gathered wirelessly and processed automatically. Data is accessible from your LoRaWAN™ provider.

APPLICATIONS

Pulse metering

Frequent reporting provides a detailed usage overview.

Tamper detection

LoRaWAN™ Pulser BK-G can detetct magnetic tampering.

FEATURES

- Long range wireless data transmission
- Pulse counting
- Pre-installed long-life battery
- Configurable reporting interval

- Maintenance free - install & forget
- Easy installation
- Average life 8 years*
- Secure communication

* Lifetime depends from the device location and reporting interval.

SPECIFICATIONS

Length:	93.5 mm
Height:	48.5 mm
Width:	25 mm
Weight:	68 g
Operating temperature:	-20°C ... +65°C
Communication range:	up to 15 km*
Tx power:	up to +20 dBm
Rx Sensitivity:	-142 dBm
MAC Layer:	LoRaWAN™
Physical Layer:	LoRa®
Body material:	PA
IP Rating:	IP68
Communication:	LoRaWAN™
Antenna connector:	SMA

* Communication range is dependent on the location of the sensor and nearest base station.

COMMUNICATION

Bit order:	LSB	
Usage reporting:	Unconfirmed messages	
Status reporting:	Confirmed messages	

PORT LIST

fPort	Usage	Transmission	Page
24	Status	⇈	5
25	Usage	⇈	10
49	Config request	⇅	15
50	Configuration	⇊	23
51	Update mode	⇊	31
99	Boot/Debug	⇈	32

For FW version >= 0.1.0

fPort 24 Status Message

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 9	Byte 10	Byte 11	Byte 12	Byte 13
Inteface	Battery	Temp	RSSI	Usage settings	Usage counter				Alert settings	Alert counter			
0x03	uint8 (mapped)*	int8 (°C)	uint8 (dBm)**		uint32 (liters)					uint32			

Bit #	Parameter	Value
0	Value during reporting	0 - low 1 - high
1	Mode	0 - counter
2	RFU	
3	RFU	
4	Medium type	0x04 Gas - litres
5		
6		
7		

* depends from the battery type. (reported in boot message)
** reportd as absolute value

Status message can be triggered with 1 second magnet switch (same place as activating). The time between two consecutive packets is dependent of the duty cycle. If the message is triggered too often, it will go to lockdown for 1 hour. It will still be working as meant to, but will not send any data.

Bit #	Parameter	Value
0	Value during reporting	0 - low 1 - high
1	Mode	1 - alert
2	Is Alert	0 - no 1 - yes
3	RFU	
4	Medium type	0x01 Pulses
5		
6		
7		

Message sample

Message in base64

```
A+UYYUBIswAAEgEAAAA=
```

Message decoded to HEX

```
03 E5 18 61 40 48B30000 12 01000000
```

Interface HEX message

```
0x03
```

Sensor Battery HEX message

```
0xE6
```

HEX message converted to decimal

```
229
```

Decimal value mapped to voltage

```
3.578 (V)
```

Sensor Tempertaure HEX message

```
0x18
```

HEX message converted to signed decimal

```
24 (°C)
```

Sensor RSSI HEX message

```
0x61
```

HEX message converted to decimal

```
97
```

Decimal value multiplied by -1

```
-97 (dBm)
```

Counter settings HEX message

```
0x40
```

Interface map HEX message converted to binary

```
0в00010000
```

Binary converted to statuses (LSB)

```
0 : Value during reporting - 0
0 : Mode - counter
0 : RFU
0 : RFU
0 : Medium type [0в0100]
0 :
1 :
0 :
```

Medium type binary value converted to medium

```
 Gas - litres
```

Usage counter `0x48B30000` HEX message flip for MSB

```
0x0000B348
```

HEX message converted to decimal

```
45986 (Liters)
```

Alert settings HEX message

```
0x12
```

Interface map HEX message converted to binary

```
0в00010010
```

Binary converted to statuses (LSB)

```
0 : Value during reporting - 0
0 : Mode - Alerts
0 : Is alert - no
0 : RFU - n/a
1 : Medium type [0в0001]
0 :
0 :
0 :
```

Medium type binary value converted to medium

```
Pulses
```

Aler counter `0x01000000` HEX message flip for MSB

```
0x00000001
```

HEX message converted to decimal

```
1 (Pulse/Alert)
```

fPort 25 Usage Message

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 9	Byte 10
Interface	Counter settings	Usage Counter				Alert settings	Alert Counter			
0x03		uint32 (liters)					uint32			

Bit #	Parameter	Value
0	Value during reporting	0 - low 1 - high
1	Mode	0 - counter
2	RFU	
3	RFU	
4	Medium type	0x04 Gas - litres
5		
6		
7		

Bit #	Parameter	Value
0	Value during reporting	0 - low 1 - high
1	Mode	1 - alert
2	RFU	
3	RFU	
4	Medium type	0x01 Pulses
5		
6		
7		

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Message sample

Message in base64

```
A0BIswAAEgEAAAA=
```

Message decoded to HEX

```
03|40|48B30000|12|01000000
```

Interface HEX message

```
0x03
```

Counter settings HEX message

```
0x40
```

Interface map HEX message converted to binary

```
0в00010000
```

Binary converted to statuses (LSB)

```
0 : Value during reporting - 0
0 : Mode - counter
0 : RFU
0 : RFU
0 : Medium type [0в0100]
0 :
1 :
0 :
```

Medium type binary value converted to medium

```
Gas - litres
```

Usage counter `0x48B30000` HEX message flip for MSB

```
0x0000B348
```

HEX message converted to decimal

```
45986 (Liters)
```

Alert settings HEX message

```
0x12
```

Interface map HEX message converted to binary

```
0в00010010
```

Binary converted to statuses (LSB)

```
0 : Value during reporting - 0
0 : Mode - Alerts
0 : Is alert - no
0 : RFU - n/a
1 : Medium type [0в0001]
0 :
0 :
0 :
```

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Medium type binary value converted to medium

```
Pulses
```

Alert counter `0x01000000` HEX message flip for MSB

```
0x00000001
```

HEX message converted to decimal

```
1 (Pulse/Alert)
```

fPort 49 Configuration Request Message

Byte 0	Operation
00	General config request

Message sample

Message goal: Request device configuration

Header

      Select Header HEX code

```
0x00
```

Compile message for sending (HEX)

```
0x00
```

Control value in base64 to control after sending

```
AA==
```

Response

Sent to fPort 49 in the following format

General configuration

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 9	Byte 10	Byte 11
Header	Usage interval		Status interval		Config. map	Interface	Counter config.	Counter mode	Multiplier	Alert config	Alert mode
0x00	uint16 (minutes)		uint16 (minutes)		①	0x03	②	0x00 usage	③	④	⑤

①

Bit #	Parameter	Value
0	Usage data sent	0 - on new data 1 - always
1..7	RFU	

②

Bit #	Parameter	Value
0	Enabled	1 - true
1	Mode	1 - sent
2	Multiplier	1 - sent
3	RFU	
4	Medium type	0x04 Gas - litres
5		
6		
7		

③

Bit #	Liters per pulse
0	10
1	100
2	1000
3..7	RFU

④

Bit #	Parameter	Value
0	Enabled	1 - true
1	Mode	1 - sent
2	Multiplier	0 - not sent
3	RFU	
4	Medium type	0x01 Pulses
5		
6		
7		

⑤

Bit #	Parameter	Value
0	Mode	1 - alerts
1	RFU	
2	RFU	
3	RFU	
4	RFU	
5	RFU	
6	Trigger length	0x01 10 seconds
7		

Message sample

Message in base64

```
AAoAPAABA0cAARNB
```

Message decoded to HEX

```
00|0A00|3C00|01|03|47|00|01|13|41
```

Header `00` decoded

```
Response for general configuration request
```

Usage interval `0x0A00` HEX message flip for MSB

```
0x000A
```

HEX message converted to decimal

```
10 (Minutes)
```

Status interval `0x3C00` HEX message flip for MSB

```
0x003C
```

HEX message converted to decimal

```
60 (Minutes)
```

Configuration map HEX message

```
0x01
```

Configuration map HEX message converted to binary

```
0в00000001
```

Binary converted to configuration (LSB)

```
1 : Usage sent – always
0 : RFU - n/a
0 : RFU - n/a
0 : RFU - n/a
0 : RFU - n/a
0 : RFU - n/a
0 : RFU - n/a
0 : RFU - n/a
```

Interface HEX message

```
0x03
```

Counter configuration HEX message

```
0x47
```

Configuration map HEX message converted to binary

```
0в01000111
```

Binary converted to configuration (LSB)

```
1 : Counter - enabled
1 : Mode - sent
1 : Multiplier - sent
0 : RFU - n/a
0 : Medium type [0ʙ0100]
0 :
1 :
0 :
```

Medium type binary value converted to medium

```
Gas - litres
```

Counter mode HEX message

```
0x00 (usage)
```

Multiplier HEX message

```
0x01
```

Configuration map HEX message converted to binary

```
0ʙ00000001
```

Binary converted to configuration (LSB) (1 pulse equals)

```
1 : 10 liters - true
0 : 100 liters - false
0 : 1000 liters - false
0 : RFU
0 : RFU
0 : RFU
0 : RFU
0 : RFU
```

Alert configuration HEX message

```
0x13
```

Configuration map HEX message converted to binary

```
0ʙ00010011
```

Binary converted to configuration (LSB)

```
1 : Alerts - enabled
1 : Mode - sent
0 : Multiplier - not sent
0 : RFU - n/a
1 : Medium type [0ʙ0001]
0 :
0 :
0 :
```

Medium type binary value converted to medium

```
Pulses
```

Alert mode HEX message

```
0x41
```

Configuration map HEX message converted to binary

```
0в01000001
```

Binary converted to configuration (LSB)

```
1 : Alerts - enabled
1 : Mode - sent
0 : Multiplier - not sent
0 : RFU - n/a
0 :
0 :
1 : Trigger length [0в01]
0 :
```

Trigger length binary value converted to time

```
10 seconds
```

fPort 50 Configuration Message

Byte0	Byte ...	Byte n
Header	Payload	

Different headers with their respective payloads are described below

General configuration

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6
Header	Configuration	Usage interval*		Status interval**		Usage config.
0x00		uint16 (min)		uint16 (min)		

Bit #	Function	Value
0	Usage interval	0 - not sent 1 - sent
1	Status interval	
2	Usage config.	
3	RFU	
4	RFU	
5	RFU	
6	RFU	
7	RFU	

Bit #	Function	Value
0	Usage without new data	0 - not sent 1 - sent
1	RFU	
2	RFU	
3	RFU	
4	RFU	
5	RFU	
6	RFU	
7	RFU	

* Usage interval min value 10 minutes, max value 7 days. Default 60 minutes. Setting to 0 will disable usage messages.
** Status interval min value 60 minutes, max value 7 days. Deafult 24 hours. Setting to 0 will set to default value.

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Message goal: Set usage reporting to 2 hour and to be sent even without new data.

Header

Select Header HEX code

```
0x00
```

Configuration

Configuration selection

```
1 : Usage interval - sent
0 : Status interval - not sent
1 : Usage configuration - sent
0 : RFU
0 : RFU
0 : RFU
0 : RFU
0 : RFU
```

Selection converted to binary

```
0в00000101
```

Selection converted to HEX

```
0x05
```

Usage reporting interval

Convert interval `120` to HEX

```
0x78
```

Flip HEX value to LSB

```
0x7800
```

Usage configuration selection

```
1 : send usage - always
0 : RFU
0 : RFU
0 : RFU
0 : RFU
0 : RFU
0 : RFU
0 : RFU
```

Selection converted to binary

```
0в00000001
```

Selection converted to HEX

```
0x01
```

Compile message for sending (HEX)

00 05 78 00 01

Control value in base64 to control after sending

AAV4AAE=

Counter configuration

Byte 0	Byte 1	Byte 2	Byte ..	Byte n	
Header	Multiplier	True reading			
0x01		uint32 (litres)			

Bit #	Liters per pulse
0	10
1	100
2	1000
3..7	RFU

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Message sample

Message goal: Configure Multiplier to 10 liters per pulse and True reading to 345567 liters.

Header

Select Header HEX code

```
0x01
```

Configuration

Multiplier selection

```
1 : 10 liters - selected
0 : 100 liters - not selected
0 : 1000 liters - not selected
0 : RFU
0 : RFU
0 : RFU
0 : RFU
0 : RFU
```

Selection converted to binary

```
0ʙ00000001
```

Selection converted to HEX

```
0x01
```

True reading value `345567` converted to hex

```
0x000545DF
```

Flip HEX value to LSB

```
0xDF450500
```

Compile message for sending (HEX)

```
0101DF450500
```

Control value in base64 to control after sending

```
AQHfRQUA
```

fPort 51 Update message

Byte 0
Header
FF

Activate update mode for BT update for 2 minutes. if nothing is done the device will reboot, join and resume working

NB! **Only** unconfirmed messages should be used for this message.

Message sample

Message goal: Set device to update mode

Header

    Select Header HEX code

```
FF
```

Compile message for sending (HEX)

```
FF
```

Control value in base64 to control after sending

```
/w==
```

fPort 99 Boot/Debug Messages

Boot message

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7	Byte 8	Byte 8
0x00 Boot	Serial (HEX)				Firmware (HEX)			Reset reason (HEX)	Battery info (HEX)

Value	Reason
0x02	Watchdog reset
0x04	Soft reset (e.g DFU mode)
0x10	Normal startup by magnet

Value	Voltage
0x01	3V
0x02	3.6V

Shutdown message

Byte 0	Byte 1	Byte 2	Byte ..	Byte n
0x01 Shutdown	Reason (HEX)	Regular tatus message		

Value	Voltage
0x20	Hardware error
0x31	Shutdown by user (magnet)
0x32	Shutdown by user (DFU)

Message sample

Message in base64

```
AGUCG04AAQAQAg==
```

Message decoded to hex

```
00 65021B4E 000100 10 02
```

Header `0x00` decoded

```
Boot message
```

Device serial `0x65021B4E` HEX message flip for MSB

```
0x4E1B0265
```

Firmware version

Major version in HEX

```
0x00
```

HEX value converted to decimal

```
0
```

Minor version in HEX

```
0x01
```

HEX value converted to decimal

```
1
```

Patch version in HEX

```
0x00
```

HEX value converted to decimal

```
0
```

Reset reason `10` HEX message

HEX message converted to reason

```
Normal startup by magnet
```

Battery info `02` HEX message

HEX message converted to voltage

```
3.6 (V)
```

3.6V BATTERY OFFSET CHART

|				
255 - Not measured	206 - 3,486	154 - 3,278	102 - 3,07	50 - 2,862
	205 - 3,482	153 - 3,274	101 - 3,066	49 - 2,858
254 - 4	204 - 3,478	152 - 3,27	100 - 3,062	48 - 2,854
253 - 3,95	203 - 3,474	151 - 3,266	99 - 3,058	47 - 2,85
252 - 3,9	202 - 3,47	150 - 3,262	98 - 3,054	46 - 2,846
251 - 3,85	201 - 3,466	149 - 3,258	97 - 3,05	45 - 2,842
250 - 3,8	200 - 3,462	148 - 3,254	96 - 3,046	44 - 2,838
249 - 3,75	199 - 3,458	147 - 3,25	95 - 3,042	43 - 2,834
248 - 3,7	198 - 3,454	146 - 3,246	94 - 3,038	42 - 2,83
247 - 3,65	197 - 3,45	145 - 3,242	93 - 3,034	41 - 2,826
246 - 3,646	196 - 3,446	144 - 3,238	92 - 3,03	40 - 2,822
245 - 3,642	195 - 3,442	143 - 3,234	91 - 3,026	39 - 2,818
244 - 3,638	194 - 3,438	142 - 3,23	90 - 3,022	38 - 2,814
243 - 3,634	193 - 3,434	141 - 3,226	89 - 3,018	37 - 2,81
242 - 3,63	192 - 3,43	140 - 3,222	88 - 3,014	36 - 2,806
241 - 3,626	191 - 3,426	139 - 3,218	87 - 3,01	35 - 2,802
240 - 3,622	190 - 3,422	138 - 3,214	86 - 3,006	34 - 2,798
239 - 3,618	189 - 3,418	137 - 3,21	85 - 3,002	33 - 2,794
238 - 3,614	188 - 3,414	136 - 3,206	84 - 2,998	32 - 2,79
237 - 3,61	187 - 3,41	135 - 3,202	83 - 2,994	31 - 2,786
236 - 3,606	186 - 3,406	134 - 3,198	82 - 2,99	30 - 2,782
235 - 3,602	185 - 3,402	133 - 3,194	81 - 2,986	29 - 2,778
236 - 3,606	184 - 3,398	132 - 3,19	80 - 2,982	28 - 2,774
235 - 3,602	183 - 3,394	131 - 3,186	79 - 2,978	27 - 2,77
234 - 3,598	182 - 3,39	130 - 3,182	78 - 2,974	26 - 2,766
233 - 3,594	181 - 3,386	129 - 3,178	77 - 2,97	25 - 2,762
232 - 3,59	180 - 3,382	128 - 3,174	76 - 2,966	24 - 2,758
231 - 3,586	179 - 3,378	127 - 3,17	75 - 2,962	23 - 2,754
230 - 3,582	178 - 3,374	126 - 3,166	74 - 2,958	22 - 2,75
229 - 3,578	177 - 3,37	125 - 3,162	73 - 2,954	21 - 2,746
228 - 3,574	176 - 3,366	124 - 3,158	72 - 2,95	20 - 2,742
227 - 3,57	175 - 3,362	123 - 3,154	71 - 2,946	19 - 2,738
226 - 3,566	174 - 3,358	122 - 3,15	70 - 2,942	18 - 2,734
225 - 3,562	173 - 3,354	121 - 3,146	69 - 2,938	17 - 2,684
224 - 3,558	172 - 3,35	120 - 3,142	68 - 2,934	16 - 2,634
223 - 3,554	171 - 3,346	119 - 3,138	67 - 2,93	15 - 2,584
222 - 3,55	170 - 3,342	118 - 3,134	66 - 2,926	14 - 2,534
221 - 3,546	169 - 3,338	117 - 3,13	65 - 2,922	13 - 2,484
220 - 3,542	168 - 3,334	116 - 3,126	64 - 2,918	12 - 2,434
219 - 3,538	167 - 3,33	115 - 3,122	63 - 2,914	11 - 2,384
218 - 3,534	166 - 3,326	114 - 3,118	62 - 2,91	10 - 2,334
217 - 3,53	165 - 3,322	113 - 3,114	61 - 2,906	9 - 2,284
216 - 3,526	164 - 3,318	112 - 3,11	60 - 2,902	8 - 2,234
215 - 3,522	163 - 3,314	111 - 3,106	59 - 2,898	7 - 2,184
214 - 3,518	162 - 3,31	110 - 3,102	58 - 2,894	6 - 2,134
213 - 3,514	161 - 3,306	109 - 3,098	57 - 2,89	5 - 2,084
212 - 3,51	160 - 3,302	108 - 3,094	56 - 2,886	4 - 2,034
211 - 3,506	159 - 3,298	107 - 3,09	55 - 2,882	3 - 1,984
210 - 3,502	158 - 3,294	106 - 3,086	54 - 2,878	2 - 1,934
209 - 3,498	157 - 3,29	105 - 3,082	53 - 2,874	1 - 1,884
208 - 3,494	156 - 3,286	104 - 3,078	52 - 2,87	
207 - 3,49	155 - 3,282	103 - 3,074	51 - 2,866	0 - N/A

3V BATTERY OFFSET CHART

255 - Not measured	204 - 2,986	152 - 2,778	100 - 2,57	48 - 2,362
	203 - 2,982	151 - 2,774	99 - 2,566	47 - 2,358
254 - 3,6	202 - 2,978	150 - 2,77	98 - 2,562	46 - 2,354
253 - 3,55	201 - 2,974	149 - 2,766	97 - 2,558	45 - 2,35
252 - 3,5	200 - 2,97	148 - 2,762	96 - 2,554	44 - 2,346
251 - 3,45	199 - 2,966	147 - 2,758	95 - 2,55	43 - 2,342
250 - 3,4	198 - 2,962	146 - 2,754	94 - 2,546	42 - 2,338
249 - 3,35	197 - 2,958	145 - 2,75	93 - 2,542	41 - 2,334
248 - 3,3	196 - 2,954	144 - 2,746	92 - 2,538	40 - 2,33
247 - 3,25	195 - 2,95	143 - 2,742	91 - 2,534	39 - 2,326
246 - 3,2	194 - 2,946	142 - 2,738	90 - 2,53	38 - 2,322
245 - 3,15	193 - 2,942	141 - 2,734	89 - 2,526	37 - 2,318
244 - 3,146	192 - 2,938	140 - 2,73	88 - 2,522	36 - 2,314
243 - 3,142	191 - 2,934	139 - 2,726	87 - 2,518	35 - 2,31
242 - 3,138	190 - 2,93	138 - 2,722	86 - 2,514	34 - 2,306
241 - 3,134	189 - 2,926	137 - 2,718	85 - 2,51	33 - 2,302
240 - 3,13	188 - 2,922	136 - 2,714	84 - 2,506	32 - 2,298
239 - 3,126	187 - 2,918	135 - 2,71	83 - 2,502	31 - 2,294
238 - 3,122	186 - 2,914	134 - 2,706	82 - 2,498	30 - 2,29
237 - 3,118	185 - 2,91	133 - 2,702	81 - 2,494	29 - 2,286
236 - 3,114	184 - 2,906	132 - 2,698	80 - 2,49	28 - 2,282
235 - 3,11	183 - 2,902	131 - 2,694	79 - 2,486	27 - 2,278
234 - 3,106	182 - 2,898	130 - 2,69	78 - 2,482	26 - 2,274
233 - 3,102	181 - 2,894	129 - 2,686	77 - 2,478	25 - 2,27
232 - 3,098	180 - 2,89	128 - 2,682	76 - 2,474	24 - 2,266
231 - 3,094	179 - 2,886	127 - 2,678	75 - 2,47	23 - 2,262
230 - 3,09	178 - 2,882	126 - 2,674	74 - 2,466	22 - 2,258
229 - 3,086	177 - 2,878	125 - 2,67	73 - 2,462	21 - 2,254
228 - 3,082	176 - 2,874	124 - 2,666	72 - 2,458	20 - 2,25
227 - 3,078	175 - 2,87	123 - 2,662	71 - 2,454	19 - 2,246
226 - 3,074	174 - 2,866	122 - 2,658	70 - 2,45	18 - 2,242
225 - 3,07	173 - 2,862	121 - 2,654	69 - 2,446	17 - 2,238
224 - 3,066	172 - 2,858	120 - 2,65	68 - 2,442	16 - 2,234
223 - 3,062	171 - 2,854	119 - 2,646	67 - 2,438	15 - 2,184
222 - 3,058	170 - 2,85	118 - 2,642	66 - 2,434	14 - 2,134
221 - 3,054	169 - 2,846	117 - 2,638	65 - 2,43	13 - 2,084
220 - 3,05	168 - 2,842	116 - 2,634	64 - 2,426	12 - 2,034
219 - 3,046	167 - 2,838	115 - 2,63	63 - 2,422	11 - 1,984
218 - 3,042	166 - 2,834	114 - 2,626	62 - 2,418	10 - 1,934
217 - 3,038	165 - 2,83	113 - 2,622	61 - 2,414	9 - 1,884
216 - 3,034	164 - 2,826	112 - 2,618	60 - 2,41	8 - 1,834
215 - 3,03	163 - 2,822	111 - 2,614	59 - 2,406	7 - 1,784
214 - 3,026	162 - 2,818	110 - 2,61	58 - 2,402	6 - 1,734
213 - 3,022	161 - 2,814	109 - 2,606	57 - 2,398	5 - 1,684
212 - 3,018	160 - 2,81	08 - 2,602	56 - 2,394	4 - 1,634
211 - 3,014	159 - 2,806	107 - 2,598	55 - 2,39	3 - 1,584
210 - 3,01	158 - 2,802	106 - 2,594	54 - 2,386	2 - 1,534
209 - 3,006	157 - 2,798	105 - 2,59	53 - 2,382	1 - 1,484
208 - 3,002	156 - 2,794	104 - 2,586	52 - 2,378	
207 - 2,998	155 - 2,79	103 - 2,582	51 - 2,374	0 - N/A
206 - 2,994	154 - 2,786	102 - 2,578	50 - 2,37	
205 - 2,99	153 - 2,782	101 - 2,574	49 - 2,366	

DIMENSIONS / PACKAGING

Dimensions

ORDERING INFORMATION
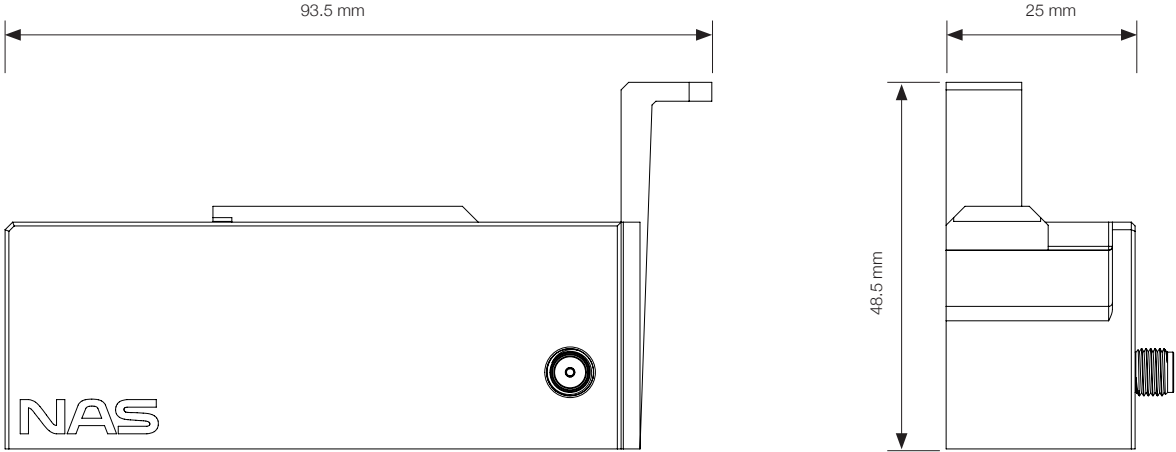
| CM3060 | A | # | 0001 | EU |
| Product | Article Region | | Qty | SKU Region |
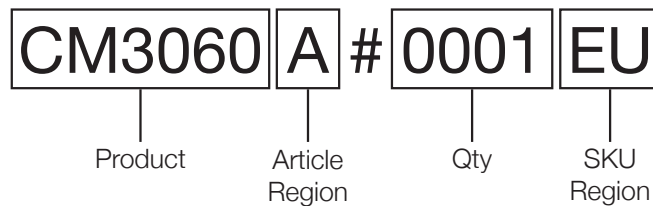
Product/SKU	Package qty	Version
CM3060x#0001xx	1	BK-G

Article region	SKU region	Frequency
A	EU	868 MHz
B	AU	915 MHz
C	US	915 MHz
D	AS	923 MHz
E	CN	779 MHz
F	KR	920 MHz
G	EU	433 MHz
H	CN	470 MHz
I	IN	865 MHz

CONTACT INFORMATION

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REVISION HISTORY

1.0 - First version

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