PCN – Product Change Notification
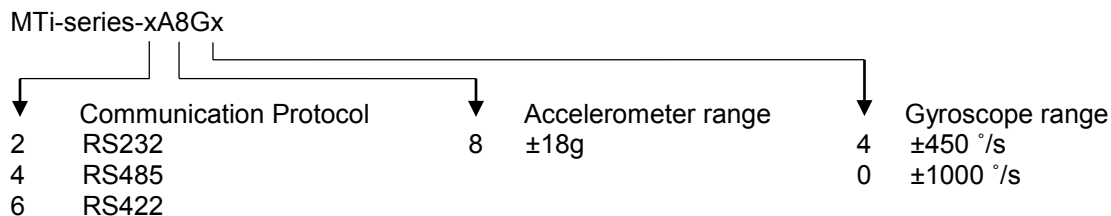
Topic:	Switching to MTi 5th generation
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Date:	30 March 2016

1 Type of Change

☒ Hardware modification
☒ Interface update

2 Affected Products

Series	Current Part Number	New Part Number	Remarks
MTi-10	MTi-10-xAxGx	MTi-10-xA**8**Gx	±5g accelerometer range discontinued
MTi-20	MTi-20-xAxGx	MTi-20-xA**8**Gx	±5g accelerometer range discontinued
MTi-30	MTi-30-xAxGx	MTi-30-xA**8**Gx	±5g accelerometer range discontinued
MTi-100	MTi-100-xAxGx	MTi-100-xA**8**Gx	±5g accelerometer range discontinued
MTi-200	MTi-200-xAxGx	MTi-200-xA**8**Gx	±5g accelerometer range discontinued
MTi-300	MTi-300-xAxGx	MTi-300-xA**8**Gx	±5g accelerometer range discontinued
MTi-G-700	MTi-G-700-xAxGx	N/A (Discontinued)	Replaced by MTi-G-710
MTi-G-710	MTi-G-710-xAxGx	MTi-G-710-xA**8**Gx	±5g accelerometer range discontinued

MTi-series-xA8Gx

	Communication Protocol		Accelerometer range		Gyroscope range
2	RS232	8	±18g	4	±450 °/s
4	RS485			0	±1000 °/s
6	RS422				

Note that not all combinations are available. Visit http://shop.xsens.com for available configurations.

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3   Description of Change

3.1   MTi configurations available only with ±18g accelerometers

The 5th generation MTi configurations will be supplied with ±18g high dynamic range accelerometers only. This configuration shall provide improved system performance in high acceleration applications and/or situations with vibrations without compromising system performance in low dynamic applications. The MTi parts with ±5g configurations will be discontinued for the 5th generation MTi. The MTi with ±18g accelerometers will inherit the product codes from the ±15g accelerometers.

3.2   No legacy mode support

For the 5th generation of MTi, the MTDATA2 will be the only supported data output format along with specific string mode support (NMEA). MTDATA output format will be discontinued and as a consequence 'Legacy' mode support will no longer be available and provided.

3.3   Mean Time Between Failures Improvement (MTBF)

For the 5th generation of MTi, after thorough and careful review of all component specifications, certain tolerances and packages were revised with the intention of making the MTi more robust. This entire effort has resulted in a more robust MTi for the 5th generation with a 50% increase to the MTBF of the previous generation.

	MTi 4th generation	MTi 5th generation
MTBF (hours)	200.000	300.000

3.4   Beidou support

The MTi 5th generation will only be supplied with the MTi-G-710 variant of the GNSS/INS system replacing the MTi-G-700 available in the 4th generation. The MTi-G-710 comes with GPS/GLONASS/Beidou support. Beidou becomes only available in the 5th generation of the MTi-G-710.

The MTi-G-710 is delivered with a GPS/GLONASS PCTEL 8117D antenna that has the same footprint, same size, and identical screw-hole locations as that of the GPS PCTEL 3910D antenna which is now supplied with the MTi-G-700. The MTi-G-700 will be discontinued.

MTi-G configuration	Constellations supported in MTi-G	Antenna	Comments
MTi-G-700 GPS/INS (4th generation)	GPS	ANT (GPS)	Discontinued
MTi-G-710 GPSS/INS (4th generation)	GPS/GLONASS	ANT-P (GPS/GLONASS)	Replaced by 5th generation
MTi-G-710 GNSS/INS (5th generation)	GPS/GLONASS/ Beidou	ANT-P (GPS/GLONASS)	Xsens can recommend antennas that support Beidou

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3.5 Magnetometer replacement

The magnetometer in the 5th generation of MTi is replaced with a new magnetometer that has a comparable performance to the one used in the 4th generations. This was necessitated due to the EOL of the 4th generation MTi magnetometer part.

3.6 Barometer improvement

The barometer in the 5th generation MTi is replaced with a new barometer that is a successor to the one that is currently in the 4th generation MTi. The new barometer has increased performance. This applies only to the MTi 100-series and MTi-G-710 for the 5th generation of MTi products.

3.7 MTi-OEM 14 pins interface header replacement

For the MTi 5th generation, the 7x2 (14 pins dual row) box header of the MTi 4th generation is replaced by a 3x2 (6 pins dual row) box header. Pin 1 location (x,y) and all other pin functions remain unchanged.

Description		Manufacturer	Part number
MTi 4th generation	7x2 (14 pins dual row) box header, pitch 1.27 mm	Samtec	FTS-107-01-F-DV-P-K
MTi 5th generation	3x2 (6 pins dual row) box header, pitch 1.27 mm	Samtec	FTS-103-01-F-DV-P-K

MTi 4th generation		MTi 5th generation	
Pin on 14-pins connector	Function	Pin on 6-pins connector	Function
1	GND	1	GND
2	Vin (3V3)	2	Vin (3V3)
3	UART_TX	3	UART_TX
4	UART_RX	4	UART_RX
5	GND	5	GND
6-11	Reserved	6	Reserved
12	GND		
13-14	Reserved		

4   Customer Impact

4.1   Purchasing

Please update purchasing systems with the new part number as described in section 2.

If MTi 4th generation is ordered, Xsens will deliver the ordered MTi 4th generation until stock runs out. When the stock of the MTi 4th generation runs out, Xsens will deliver the corresponding MTi 5th generation part.

4.2   Interface

If the MTi 4th generation is currently used with MTDATA format, please update your system to support MTDATA2. This is documented in the MT Software Suite and documentation. In case you need help, visit Xsens' support page: www.xsens.com/en/support.

4.3   GPS/GLONASS/BeiDou support

The 5th generation MTi-G-710 supports GPS/GLONASS/BeiDou, please update your antenna system component to make use of these supported GNSS constellations. The multi-GNSS antenna component - PCTEL 8817D is drop-in replacement part for the GPS PCTEL 3910D antenna.

5   Schedule

Exact dates to be communicated when information is available.

Samples:	Q3-2016
Estimated First Shipment date:	Q4-2016
Last Time Buy Date:	N/A
Last Ship Date:	N/A

6   References

PCTEL. (2015, 12). *PCTEL 8117D GPS L1/GLONASS antenna datasheet*. Retrieved from
http://www.antenna.com/artifacts/20158208117D.pdf

Xsens Technologies B.V. (2015, 04). *MTi White paper*. (Xsens) Retrieved from
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