


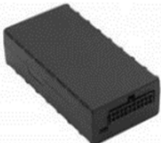


			
Btracking Part No.	BTL1230S	BTL1230W	BTL1230C
Cell Network			
LTE	Cat M1 1900 (B2)/AWS1700 (B4)/700 (B12)	Cat M1 1900 (B2)/AWS1700 (B4)/700 (B12)	Cat M1 1900 (B2)/AWS1700 (B4)/700 (B12)
Satellite Location (GNSS)			
Constellation Support	GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS, GAGAN)	GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS, GAGAN)	GPS, GLONASS, SBAS Engine (WAAS, EGNOS, MSAS, GAGAN)
Channels	55 Channel	55 Channel	55 Channel
Tracking Sensitivity	-167 dBm	-167 dBm	-167 dBm
Acquisition Sensitivity			
Cold Start	-148 dBm	-148 dBm	-148 dBm
Hot Start	-157 dBm	-157 dBm	-157 dBm
Location Accuracy	2.0m CEP Open Sky (GPS SBAS 24 hours static)	2.0m CEP Open Sky (GPS SBAS 24 hours static)	2.0m CEP Open Sky (GPS SBAS 24 hours static)
Location Update Rate	1 Hz	1 Hz	1 Hz
Anti-Jamming	N/A	N/A	N/A
AGPS Location assistance capable	Y	Y	Y
Comprehensive I/O			
Ignition Inputs	1 fixed bias	1 fixed bias	1 fixed bias
Digital Inputs	2 (high/low selectable 0-32 VDC)	2 (high/low selectable 0-32 VDC)	3 (high/low selectable 0-32 VDC)
Digital Outputs	3 (open collector relay 150mA)	3 (open collector relay 150mA)	4 (open collector relay 150mA)
Analog Inputs	N/A	N/A	1 (external ADC input 0-32 VDC)
Accelerometer	Built-in, triple-axis (motion sensing, tilt detection)	Built-in, triple-axis (motion sensing, tilt detection)	Built-in, triple-axis (motion sensing, tilt detection)
Serial Interface	N/A	N/A	1 TTL Port
1-Wire Interface	N/A	N/A	N/A
Status LEDs	2 (GPS, cellular)	2 (GPS, cellular)	2 (GPS, cellular)
DC Power Output	N/A	N/A	1 (switched 3.3V)
Certifications			
FCC	Y	Y	Y
CE	N/A	N/A	N/A
IC	Y	Y	Y
PTCRB	Y	Y	Y
RoHS	Y	Y	Y
Electrical			
Operating Voltage	12/24 VDC Vehicle Systems 9-32 VDC (startup, operating) 7-32 VDC (momentary)	12/24 VDC Vehicle Systems 9-32 VDC (startup, operating) 7-32 VDC (momentary)	12/24 VDC Vehicle Systems 9-32 VDC (startup, operating) 7-32 VDC (momentary)
Power Consumption	Typical 750 uA @ 12V (deep sleep) Typical 12 mA @ 12V (radio-active sleep/idle) Typical 40 mA @ 12V (active tracking w/GPS and cell enabled)	Typical 500 uA @ 12V (deep sleep) Typical 11 mA @ 12V (radio-active sleep/idle) Typical 40 mA @ 12V (active tracking w/GPS and cell enabled)	Typical 500 uA @ 12V (deep sleep) Typical 13 mA @ 12V (radio-active sleep/idle) Typical 40 mA @ 12V (active tracking w/GPS and cell enabled)
Battery Pack			
Battery Capacity	200 mAh	Up to 1400 mAh	Up to 1400 mAh
Battery Technology	Lithium-Ion	Lithium-Ion	Lithium-Ion
Charging Temperature	0° to +45° C	0° to +45° C	0° to +45° C
Environmental			
Temperature	-30° to +65° C (connected to primary power) -10° to +60° C (operating on internal battery) -20° to +25° C ≤ 6 months (long term storage with battery)	-30° to +65° C (connected to primary power) -10° to +60° C (operating on internal battery) -20° to +35° C ≤ 6 months (long term storage with battery)	-30° to +60° C (connected to primary power) -10° to +60° C (operating on internal battery) -20° to +25° C ≤ 6 months (long term storage with battery)
Humidity	95% RH @ 50° C non-condensing	95% RH @ 50° C non-condensing	95% RH @ 50° C non-condensing
Shock and Vibration	U.S. Military Standards 202G, SAEJ1455	U.S. Military Standards 202G, SAEJ1455	U.S. Military Standards 202G, SAEJ1455
ESD	IEC 61000-4-2 (4 KV Limit)	IEC 61000-4-2 (4 KV Limit)	IEC 61000-4-2 (4 KV Limit)
Ingress Protection Rating	N/A	IP67	N/A
Physical			
Dimensions	2.10 x 3.80 x .77" 53.4 x 96.6 x 19.5 mm	3.06 x 4.45 x 0.87" 77.8 x 113.0 x 22.0 mm	2.10 x 3.68 x 0.77" 53.4 x 93.5 x 19.5 mm
Weight	3.95 oz. (112 g)	6.35 oz (180 g)	2.15 oz. (61 g)
CONNECTORS/SIM ACCESS			
Power, I/O	N/A	N/A	N/A
SIM Access	Internal (2FF)	Internal (2FF)	Internal (2FF)
Cellular Antenna	Internal	Internal	Internal
GPS Antenna	Internal	Internal	Internal

			
Additional Details Summary			
Hardware			
GPS, high sensitivity	Y	Y	Y
Processor	8 bit	8 bit	8 bit
Serial Ports	1	1	1
ECM Data (Hvy Duty J1939/J1708)	N	N	N
ECM Data (Light Duty OBDII)	N	N	N
Inputs (digital and includes ignition)	3	3	4
A/D Inputs	2 internal / 1 ext	2 internal / 1 ext	2 internal / 1 ext
Input bias control	Y	Y	Y
Outputs	3	3	4
IButton / Driver ID (1 bit protocol)	N	N	N
Temp sensor - (1 bit protocol)	N	N	N
Vehicle Power	12 & 24v	12 & 24v	12 & 24v
Non-volatile Memory	Y	Y	Y
Serial Data Support	Ltd	Ltd	Ltd
Programmable 3 Axis Accelerometer	Motion/Tilt	Motion/Tilt	Motion/Tilt
Ext Wiring Harness Options	Y	Y	Y
Internal Antenna Option	Y	Y	Y
External Antenna Option	Future	Future	Future
Water resistant enclosure	N	N	N
Variable Sleep Modes	Y	Y	Y
Communication Options			
SMS	Y	Y	Y
GPRS	Y	Y	Y
HSDPA/HSUPA	Y	Y	Y
LTE	Y	Y	Y
WiFi	N	N	N
Bluetooth	N	N	N
Satellite	N	N	N
Firmware			
Logged locations	2000	2000	2000
<i>Peripheral Support</i>			
User Msgs(MDT, Txt, SMS,etc)	Y	Y	Y
Garmin Messaging	N	N	N
NMEA (via serial)	N	N	N
<i>Configuration</i>			
OVER-THE-AIR Firmware	Y	Y	Y
OVER-THE-AIR Configuration			
via SMS	Y	Y	Y
via PULS	Y	Y	Y
via LMU Manager	Y	Y	Y
<i>PEG Features</i>			
PEG Event Lines	128	128	128
Accumulators	16	16	16
Timer timeouts	16	16	16
De-bounce delays (Inputs)	1 per input	1 per input	1 per input
Max Speed Thresholds	4	4	4
Time - Distance reporting	1	1	1
A/D Thresholds	0	0	0
A/D accumulators	Y	Y	Y
<i>Geo-Fence</i>			
Rectangle or radial zone	10	10	10
Radial Zones or Vertices	N	N	N