TECHNOLOGY SOLUTIONS UK LTD

GPS Module for the MC70

Features and benefits:

- ✓ Ultra high sensitivity GPS receiver capable of better than 2m positional accuracy
- ✓ Faster times to fix under all conditions
- ✓ Provides simple upgrade path for standard MC70 terminal
- ✓ SiRFStar III high performance GPS engine
- ✓ SIRFLoc multimode GPS support for improved fix availability
- ✓ Tracking of 20 satellites simultaneously supported
- ✓ WAAS/EGNOS compatible
- ✓ Compact enclosure - 90×82×32mm (3.54"x3.23"x1.26")
- ✓ Lightweight – 95g (3.35 oz)

MOTOROLA validated plus

PART NO.

1058-01-SO-MC70-GPS

- This accessory for the MC70 series of terminals provides GPS capability. The unit attaches as a sleeve around the MC70. The mechanical design of the module enables the attachment to remain compatible with existing MC70 accessories such as the desktop charge cradle and the car charger. The USB port from the MC70 is brought through to the docking connector on the bottom of the GPS sleeve to provide ActiveSync connectivity to the MC70.
- The GPS unit uses the SiRFStarIII chipset and has an integrated antenna. Communication with the MC70 terminal is over the serial port. By default, communication uses the NMEA-0183 protocol allowing immediate operation with standard software packages. The unit can be configured for baud rates up to 57600baud. SiRF protocol may be used in place of NMEA

Performance Characteristics

Open sky accuracy	Horizontal accuracy: better than 2.89 m (CEP), 5.2 m (2 dRMS)
Datum	WGS-84
Acquisition/reacquisition performance	@ **-125 dBm** hot start TTFF: <1s (95%), 500 ms (typ) valid almanac, time, position and ephemeris warm start TTFF: 38 s (95%), 32 s (typ) valid almanac, time and position cold start TTFF: 42 s (95%), 34 s (typ) valid almanac
	@ **-140 dBm** hot start TTFF: <1s (95%), <1s (typ) valid almanac, time, position and ephemeris warm start TTFF: 59 s (95%), 49 s (typ) valid almanac, time and position cold start TTFF: 66 s (95%), 52 s (typ) valid almanac
Dynamic conditions	Maximum altitude 18 000m Maximum velocity 515 ms^{-1}
Tracking capability	20 satellites simultaneously
Protocol messages	NMEA-0183, version 2.20 with baud rate selection and SiRF binary. Control NMEA – GGA,GLL,GSA,GSV,RMC and VTG. SiRF – Binary position, velocity, altitude and status. Selected NMEA-0183/SiRF binary messages: latitude, longitude, elevation, velocity, heading, time, satellite tracking status, command/control messages
Update rate	1Hz maximum
Operating frequency	L1 1575.42 MHz
Backup power for GPS module	Supercap provides 2 hours Almanac data retention
Antenna	Internal patch
LED indication	Power, fix indication
High accuracy mode	SBAS enabled WAAS/EGNOS compatible
Baud rate	Selectable (4800 - 57600)
Current consumption	100mA maximum during streaming of NMEA data 10mA using Trickle Power™ mode (standby mode)

Connection interfaces	
Physical interface	USB and power in to charge MC70
Power supply	Powered from host terminal
ActiveSync	via USB
Physical Characteristics	
Dimensions	90×82×32mm (3.54"x3.23"x1.26")
Weight	95g (3.35 oz)
Enclosure material	PC/ABS
Colour	Grey
Material finish	Sparked surface
Mechanical attachment	Snap-on action with optional locking screws
Docking	Attachment maintains dockability with Motorola docking cradle for charging and ActiveSync
Environmental	
Operating Temperature	-10°C to +50°C (14°F to 122°F)
Storage Temperature	-40°C to +60°C (-40°F to 140°F)
Humidity	Up to 90% Relative humidity Non Condensing
Drop specification	1.3m (4.26ft) to concrete, 6 drops per 6 sides over operating temperature; 1.5m (5ft) to concrete, 2 drops per 6 sides at ambient temperature 23ºC (73ºF)
Sealing	Internal components conformal coated
	IPx4
Electrostatic discharge	+/-15kV air discharge, +/-8kV direct discharge
Construction	RoHS compliant

Regulatory	
EMI/RFI	Europe - EN6100-6-1, EN301489
	USA - FCC Part 15
Electrical Safety	Europe - EN60950-1
	USA - UL60950
All PCBs are conformally coated	

+ About TSL

TSL designs and manufactures both standard and custom embedded, snap on and standalone peripherals for handheld computer terminals. Embedded technologies include:

- RFID - Low Frequency, High Frequency and UHF
- Bluetooth
- GPRS/GSM
- IrDA
- Contact Smartcard
- Fingerprint Biometrics
- 1D and 2D Barcode Scanning
- GPS
- 802.11 Wi-Fi
- Magnetic Card Readers
- OCR-B and ePassport

Utilizing class leading Industrial design, TSL develops products from concept through to high volume manufacture for Blue Chip companies around the world. Using the above technologies TSL develops innovative products in a timely and cost effective manner for a broad range of handheld devices.

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