



Data types

Unless specified in a parameter description, these are the possible values for used types:

Type	Description
BOOL	Either true or false
BYTE	An integer value between -128 and 127
SHORT	An integer value between -32768 and 32767
INT	An integer value between -2147483648 and 2147483647
LONG	An integer value between -9223372036854775808 and 9223372036854775807
BIGINT	An integer value with unlimited range
DOUBLE	A decimal point value between -1.7976931348623157E+308 and 1.7976931348623157E+308
STRING	Any text with unlimited length

Parameter reference for XT3100

Parameter	Type	Description										
command.argument[{{index}}]	STRING	Command nth argument.										
device.backupBattery	DOUBLE	Backup battery voltage in millivolts.										
device.backupUpdated	BOOL	Backup firmware updated.										
device.battery	DOUBLE	Battery voltage in millivolts.										
device.bridge.battery	INT											
device.bridge.values[{{index}}].avgRSSI	SHORT											
device.bridge.values[{{index}}].id	STRING											
device.bridge.values[{{index}}].relayedCount	INT											
device.bridge.values[{{index}}].siCount	INT											
device.cellular.mno	STRING	Mobile Network Operator (MNO) short alphanumeric format. Max 10 characters.										
device.cellular.rssi	INT	Received Signal Strength Indication. Reported in raw dBm.										
		<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Less than -110 dBm</td></tr><tr><td>1-62</td><td>From -110 to -49 dBm with 1dBm steps</td></tr><tr><td>63</td><td>-48 dBm or greater</td></tr><tr><td>99</td><td>Not Known or Not Detectable</td></tr></table>	Value	Description	0	Less than -110 dBm	1-62	From -110 to -49 dBm with 1dBm steps	63	-48 dBm or greater	99	Not Known or Not Detectable
		Value	Description									
		0	Less than -110 dBm									
		1-62	From -110 to -49 dBm with 1dBm steps									
63	-48 dBm or greater											
99	Not Known or Not Detectable											
device.commissioningActionId	INT	Commissioning action ID. There are various installation / commissioning actions such as solar test, occupancy calibration, 7-way test, etc.. unitless.										

device.commissioningActionResponse	STRING	Response string from the commissioning action.																		
device.configHash	STRING	Configuration hash.																		
device.counters.bleResults	INT	Number of times a scan results in an advertisement found since the previous wake.																		
device.counters.bleScans	INT	Number of times scanned for BLE advertisements since the previous wake.																		
device.counters.loadResetChk	INT	Number of instances the system timed out waiting for an ADC representing the SC20 Load SW Voltage to drop below ~1V, indicating it's safe to turn the system on again. This parameter is for diagnostic purposes and is unlikely to ever increment.																		
device.counters.mculdleAtt	INT	Number of times that the PSoC has attempted to put the SC20 into idle mode.																		
device.counters.mculdleClearError	INT	Number of times that the PSoC encountered an error while clearing idle mode.																		
device.counters.mculdleSetError	INT	Number of times that the PSoC encountered an error while setting idle mode.																		
device.counters.mcuWakeAtt	INT	Number of times that the PSoC has attempted to take the SC20 out of idle mode.																		
device.counters.powerUpReset	INT	Power-on resets.																		
device.counters.pwrOffAttempts	INT	Number of power-off attempts on the SC20. This parameter is for diagnostic purposes and is unlikely to ever increment.																		
device.counters.pwrOffErrors	INT	Number of SC20 power-off errors. This parameter is for diagnostic purposes and is unlikely to ever increment.																		
device.counters.pwrOnAttempts	INT	Number of SC20 power-on attempts. This parameter is for diagnostic purposes and is unlikely to ever increment.																		
device.counters.pwrOnErrors	INT	Number of SC20 power-on errors. This parameter is for diagnostic purposes and is unlikely to ever increment.																		
device.counters.resetBrownout	SHORT	Brown-out resets.																		
device.counters.resetHibernate	SHORT	Hibernate resets.																		
device.counters.resetSoftware	INT	Software reset counter.																		
device.counters.resetUnknown	INT	Unknown resets.																		
device.counters.resetWatchdog	SHORT	Hardware watchdog resets.																		
device.credentialCksum	STRING																			
device.emergencyLog	BOOL	True if an emergency log was generated by the device. An emergency log is generated in the case that the SC20 application reverts to old firmware.																		
device.firmware.boot	STRING	PSoC boot firmware version.																		
device.firmware.main	STRING	Main firmware version.																		
device.ledBoxVersion	STRING	LED Box version.																		
device.powerUpMode	BYTE	Last power-up/reset mode<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Software Reset</td></tr><tr><td>2</td><td>DC Power On</td></tr><tr><td>3</td><td>Motion Sense</td></tr><tr><td>4</td><td>Interval Wakeup</td></tr><tr><td>5</td><td>No Motion Sense</td></tr><tr><td>6</td><td>Periodic Motion</td></tr><tr><td>7</td><td>Periodic No Motion</td></tr><tr><td>12</td><td>Input1</td></tr></table>	Value	Description	1	Software Reset	2	DC Power On	3	Motion Sense	4	Interval Wakeup	5	No Motion Sense	6	Periodic Motion	7	Periodic No Motion	12	Input1
Value	Description																			
1	Software Reset																			
2	DC Power On																			
3	Motion Sense																			
4	Interval Wakeup																			
5	No Motion Sense																			
6	Periodic Motion																			
7	Periodic No Motion																			
12	Input1																			
device.socSys	STRING	SC20 Android system firmware version.																		
device.softwareMain	STRING	SC20 application firmware version.																		
device.timestamp	LONG	Date time. Seconds since 00:00:00 January 1, 1970 UTC.																		
event.code	INT	Event identifier.																		
event.deviceId	STRING	Device serial number.																		
event.guid	STRING	Telemetry record ID.																		
event.name	STRING	Named event identifier.																		
event.sequenceNo	SHORT	Event sequence number.																		
event.timestamp	LONG	Seconds since epoch. Midnight, Jan 1, 1970.																		
firmware.update.filename	STRING																			

firmware.update.status	INT	
gps.altitude	INT	Altitude.
gps.bearing	SHORT	GPS heading (Horizontal dilution of precision in tenths of meters).
gps.geoChecksum	INT	Geofence system checksum.
gps.geoChecksumCsv	LONG	
gps.geoChecksumJson	LONG	
gps.hdop	DOUBLE	GPS PDOP.
gps.location.lat	DOUBLE	Latitude.
gps.location.lon	DOUBLE	Longitude.
gps.lockStatus	BYTE	GPS lock status.
gps.odometer	DOUBLE	Virtual odometer GPS.
gps.satellitesFix	INT	GPS satellites (Number of satellites used for position fix).
gps.speed	DOUBLE	GPS Speed. Speed from GPS in kilometers per hour.
payload.accelerometerX	DOUBLE	X-vector milli g.
payload.accelerometerY	DOUBLE	Y-vector milli g.
payload.accelerometerZ	DOUBLE	Z-vector milli g.
payload.currentSolar	INT	Current provided by solar panel, represented as ADC counts.
payload.diagnosticCode	INT	Diagnostic code.
payload.door.battery	DOUBLE	Door sensor battery voltage.
payload.door.state	BYTE	Door state.
payload.door.version	STRING	Door sensor version.
payload.dsi.ad1Age	DOUBLE	DSI advertisement 1 age.
payload.dsi.ad2Age	DOUBLE	DSI advertisement 2 age.
payload.dsi.ad3Age	DOUBLE	DSI advertisement 3 age.
payload.dsi.appFirmware	STRING	DSI application firmware.
payload.dsi.bootFirmware	STRING	DSI boot loader firmware.
payload.dsi.config	STRING	DSI configuration.
payload.dsi.currentDoorState	DOUBLE	DSI current door state.
payload.dsi.currentStateTime	DOUBLE	DSI current door state time.
payload.dsi.deviceUid	STRING	DSI device UID.
payload.dsi.dsInternalBatteryVoltage	DOUBLE	DS internal battery voltage.
payload.dsi.dsRssi	DOUBLE	DSI DS RSSI.
payload.dsi.error0	STRING	DSI error 0.
payload.dsi.error1	STRING	DSI error 1.
payload.dsi.externalPowerVoltage	DOUBLE	DSI external power voltage.
payload.dsi.internalTemperature	DOUBLE	DSI internal temperature.
payload.dsi.previousDoorState	DOUBLE	DSI previous door state.
payload.dsi.previousStateTime	DOUBLE	DSI previous door state time.
payload.dsi.rssi	DOUBLE	DSI RSSI.
payload.dsi.systemMode	STRING	DSI system mode.
payload.externalAdc	DOUBLE	External ADC voltage.
payload.geoLastEnter	INT	The last geofence that was entered. Default is 0.
payload.geoLastExit	INT	The last geofence that was exited. Default is 0.
payload.geoRev	STRING	Geofence system version.
payload.image.file	STRING	Image file name uploaded to the FTP server.
payload.image.index	INT	Image index used to identify uploaded images and JSON results to S3.
payload.image.match	BYTE	During an occupancy measurement the device will match pixels between the left and right stereo images. XVLConfidence is the confidence in that stereo matching operation.
payload.image.process	INT	The process exit value from XVL. Reported in events because non-zero values indicate certain errors.
payload.image.runtime	SHORT	The process runtime from the last XVL job in seconds.
payload.motionState	BOOL	Sensor motion detected

payload.occupancyValidityFlag	BYTE	Occupancy Valid Flag.	
		Value	Description
		0	Not Valid
		1	Valid
payload.occupancyVolume	STRING	Occupancy volume	
payload.queueTimestamp	INT	Holds the timestamp at which the event was added to the event queue. Default Value is 0.	
payload.sceneMotionFlag	BYTE	Scene motion flag 1 motion was detected.	
payload.temperature	INT	Sensor ambient temperature.	
payload.tpms.configuredAggregator	STRING	Expected/configured TPMS aggregator (BlueRex).	
payload.tpms.count	DOUBLE	TPMS sensors count in alert.	
payload.tpms.currentPage	DOUBLE	Current page number of TPMS message.	
payload.tpms.messageRssi	DOUBLE	TPMS message RSSI.	
payload.tpms.totalMessages	DOUBLE	Total number of TPMS messages.	
payload.tpms.values[{index}].battery	DOUBLE		
payload.tpms.values[{index}].id	STRING		
payload.tpms.values[{index}].position	STRING		
payload.tpms.values[{index}].pressure	DOUBLE		
payload.tpms.values[{index}].status	STRING		
payload.tpms.values[{index}].temperature	DOUBLE		
payload.trailerOccupancyFlag	BYTE	Indicates whether the trailer is full or not (based on images, ultrasonic, etc.). 0, 1, or -1 (if uninitialized).	
payload.trailerType	BYTE	Trailer type, a [0,7] int representing the type of trailer sitar is installed in. Unitless.	
payload.ultrasonicDistance	STRING	Ultrasonic distance of the nearest object (meters).	
payload.voltageExternal	DOUBLE	External power voltage.	
payload.voltageSolar	INT	Voltage provided by solar panel, represented as ADC counts.	
sensata.sensorData	STRING	Sensata sensor data.	