

EOS Radar Sensor - Configuration Parameters

EOS Resource Groups

Module	Group	Group ID	Description
EOS	Timing and alarm	0x00	Measurement cadence and radar level alarm thresholds
EOS	Telemetry	0x01	Read-only values published after a measurement
EOS	Radar	0x02	Radar acquisition and filtering settings
EOS	LED	0x03	LED indication level
EOS	Opening / tilt	0x04	Opening and tilt alarm configuration
EOS	Vandalism	0x05	Impact based vandalism alarm configuration
EOS	Trigger	0x08	Manual measurement trigger executable

Timing and alarm - Group 0x00

Resource	ID	Description	Key	Min	Max	Default	Unit	Module key
MEASUREMENT PERIOD	0x00	Defines the interval in which measurements are acquired. A value of 60 means that one measurement is performed every 60 minutes.	period	1	660	60	min	XXX1
DELTA ALARM	0x01	Defines the absolute change of the measured distance/level compared with the last transmission that triggers an alarm uplink.	delta	0.03	10.0	3.0	m	XXX1
REGULAR SEND INTERVAL	0x02	Number of measurements until the regular transmission. Example: every = 6 sends every sixth measurement as keep-alive.	every	1	24	1	measurements	XXX1
FULL THRESHOLD	0x04	Lower distance threshold for the full/minimum alarm. Typically used when a short distance indicates a high fill level.	full	0.0	10.0	0.2	m	XXX1
EMPTY THRESHOLD	0x05	Upper distance threshold for the empty/maximum alarm. Typically used when a long distance indicates a low fill level.	empty	0.05	23.0	10.0	m	XXX1
DISTANCE HYSTERESIS	0x06	Hysteresis for distance alarms to prevent frequent toggling around the threshold.	hyst	0.0	1.0	0.5	m	XXX1
ACTIVE RADAR ALARM	0x07	Bit field for enabling radar alarms: bit 0 = Delta, bit 1 = Min/Full, bit 2 = Max/Empty.	aact	0	7	0	bitfield	XXX1

Alarm mode aact - Group 0x00

Bit 0 enables delta alarm, bit 1 enables min/full alarm, and bit 2 enables max/empty alarm.

aact value	Delta alarm	Min/full alarm	Max/empty alarm	Meaning
0	off	off	off	No radar level alarm
1	on	off	off	Delta alarm only

aact value	Delta alarm	Min/full alarm	Max/empty alarm	Meaning
2	off	on	off	Min/full alarm only
3	on	on	off	Delta and min/full alarms
4	off	off	on	Max/empty alarm only
5	on	off	on	Delta and max/empty alarms
6	off	on	on	Min/full and max/empty alarms
7	on	on	on	Delta, min/full, and max/empty alarms

Radar - Group 0x02

Resource	ID	Description	Key	Min	Max	Default	Unit	Module key
RADAR MODE	0x00	Radar mode: 0 = Smart Waste, 2 = Liquid. Default is 2 for the Liquid preset and 0 otherwise.	tmod	0	2	2 / 0	enum	XXX1
RADAR EFFORT	0x01	Radar acquisition effort: 1 = low, 2 = medium, 3 = high. Higher values can improve measurement quality but typically increase energy use.	effr	1	3	2	enum	XXX1
MINIMUM RADAR DISTANCE	0x02	Start of the radar scan range for Liquid applications. Objects below this distance are not considered.	rsta	0.05	3.0	0.15	m	XXX1
MAXIMUM RADAR DISTANCE	0x03	End of the radar scan range for Liquid applications.	rend	0.05	23.0	10.0 / 3.0	m	XXX1
RADAR PROFILE	0x04	Maximum A121 radar profile for Liquid applications.	prof	1	5	2	enum	XXX1
RADAR FILTER TYPE	0x05	Slow filter for the measured value: 0 = off, 1 = IIR, 2 = moving average, 3 = adaptive EMA.	rsft	0	3	2	enum	XXX1
RADAR FILTER DEPTH	0x06	Number of historical values used by the slow filter.	rsfd	0	24	3	samples	XXX1
SMART WASTE PRESET	0x07	Preset index for Smart Waste applications.	wpre	0	4	3	enum	XXX1
RADAR CONFIG BLOB	0x08	Binary radar configuration. Bytes 0..2 map to Smart Waste seq_len, med_len and threshold.	rcfg	0	24	empty	bytes	XXX1

Additional compile-time radar setting - Group 0x02

Kconfig symbol	Default	Min	Max	Unit	Description
CONFIG_SENTOS_EOS_RADAR_FILT_MAX_DEPTH	12	6	24	samples	Template capacity of the radar signal filter

LED - Group 0x03

Resource	ID	Description	Key	Min	Max	Default	Unit	Module key
LED MODE	0x00	Defines the level of LED indications: 0 = off, 1 = all indications, 2 = mandatory indications only.	led	0	2	2	enum	XXX1

LED indication levels - Group 0x03

Mandatory indications are power on, power off, BLE advertising, BLE connected, and alarm. Optional indications are network joined, measurement flash, and always-on status color.

Value	Mode	Mandatory indications	Optional indications
0	Off	Disabled	Disabled
1	All	Enabled	Enabled
2	Mandatory only	Enabled	Disabled

Opening / tilt - Group 0x04

Resource	ID	Description	Key	Min	Max	Default	Unit	Module key
OPENING DETECTION MODE	0x00	Opening detection mode: 0 = off, 1 = face down, 2 = face up, 3 = vertical.	opmo	0	3	1	enum	XXX1
ALARM AFTER	0x01	Time until an alarm is emitted for a permanently open state.	oaaf	0	43200	300	s	XXX1
TILT TRIGGER LEVEL	0x02	Tilt angle at which tilt detection is triggered.	ttle	5	180	20	deg	XXX1

Opening mode values - Group 0x04

Value	Meaning
0	Off
1	Face down
2	Face up
3	Vertical

Vandalism - Group 0x05

Resource	ID	Description	Key	Min	Max	Default	Unit	Module key
VANDALISM COUNT	0x00	Number of required impacts within the counting window. 0 disables vandalism detection.	vacn	0	100	1	impacts	XXX1
VANDALISM THRESHOLD	0x01	Acceleration threshold for impact detection.	vagt	500	4000	2000	mg	XXX1

Trigger - Group 0x08

Resource	ID	Description	Key	Default	Input	Module key
TRIGGER MEASUREMENT	0x01	Triggers an irregular measurement. 0x0001 enables uplink sending; any other value performs a local-only user-triggered measurement.	measure	n/a	2-byte big-endian command value	XXX1