



smartmicro

SMART MICROWAVE SENSORS GMBH

UMRR | Automotive Radar Sensors

FORWARD APPLICATIONS

- ACC Adaptive Cruise Control
- AEB Automatic Emergency Braking
- FCW Forward Collision Warning

SIDE APPLICATIONS

- BSD Blind Spot Detection
- RCTA Rear Cross Traffic Alert
- SCW Side Collision Warning

REAR APPLICATIONS

- LCA Lane Change Assist
- DOW Door Open Warning
- RCW Rear Collision Warning

24 AND 77/79 GHZ

WIDE AND NARROW FIELD OF VIEW
Fixed Beam and Adaptive Digital Beam Forming

SHORT AND LONG RANGE
Down to 0.5m; Up to 500m

ETHERNET, CAN
Ready-to-Run in Sensor Networks

FLEXIBLE DATA INTERFACE
For Sensor Data Fusion; Raw and Tracking Out

YAW RATE SENSOR
3 AXES

ATTITUDE SENSOR
3 AXES

DIGITAL COMPASS



UMRR-OA |

- Precise and Robust Multi-Purpose 24GHz Radar Platform.
- Standard Performance for all Typical Automotive Applications.

	TYPE 29	TYPE 30	TYPE 31
APPLICATIONS	FCW, ACC	FCW, RCW	BSD, LCA, DOW, SOW, RCTA
TECHNOLOGY	FMSK Modulation with Fixed Beams		
PERFORMANCE			
Passenger Car Detection Range	160m (525ft)	90m (344ft)	45m (148ft)
Pedestrian Detection Range	50m (164ft)	40m (131ft)	20m (66ft)
Azimuth Field of View	-18...+18deg	-35...+35deg	-50...+50deg
Minimum Detection Range	1.0 m (3ft)		
Range Accuracy	typ. < +/- 2.5% or < +/- 0.25m (bigger of)		
Speed Accuracy	typ. < +/- 0.28m/sec		
Speed Interval	-70m/sec to 70m/sec		
Refresh Time	≤ 50msec		
Simultaneously Tracked Objects	Up to 64		
MECHANICAL			
Weight	330g (0.73lbs)	295g (0.65lbs)	295g (0.65lbs)
Dimensions	110 x 99 x 31mm	95 x 85 x 31mm	95 x 85 x 31mm
Enclosure	Rugged, Watertight Casing Conforming to IP67		
ENVIRONMENTAL			
Operation Temperature	-40 to +85deg C (-40 to +185deg F)		
Shock; Vibration	100g rms; 14g rms		
GENERAL			
Frequency Band; EIRP	24.0 to 24.25 GHz		
Power Supply	7 to 32 VDC; 3.7 Watts		
Connector	8 Pin plug Binder Series 712		
Communication Interface	CAN Bus, Relay Contacts		
Compatible Interface Modules	Ethernet, HSDPA/UMTS/GPRS/WIFI Modems		

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UMRR-OC |

- 77GHz and 24GHz Radar Platform with 3DHD High Resolution and Adaptive Beams.
- High Speed Modulation, 2D Matrix Detection, Digital Beam Forming.
- Wide Beam, Long Range, Vehicle Length Measurement and Classification.
- Ethernet Interface, Yaw Rate and Attitude Sensor.

	TYPE 80	TYPE 39	TYPE 40
APPLICATIONS	ACC, AEB, FCW	ACC, AEB, FCW	ACC, AEB, FCW
TECHNOLOGY	High Speed Modulation with 3DHD Resolution and Adaptive Beams	High Speed Modulation with 3DHD Resolution and Adaptive Beams	High Speed Modulation with 2DHD Resolution and Fixed Beams
PERFORMANCE			
Passenger Car Detection Range	180m (590ft)	320m (1050ft)	440m (1444ft)
Pedestrian Detection Range	60m (197ft)	150m (492ft)	220m (722ft)
Maximum Range	-	-	500m (1640ft)
Azimuth Field of View	-16...+16deg and -40...+40deg	-50...+50deg	-18...+18deg
Minimum Detection Range	0.5m (1.6ft)		
Range Accuracy	typ. < +/- 1.5% or < +/- 0.25m (bigger of)		
Speed Accuracy	typ. < +/- 0.28m/sec		
Speed Interval	-68.3m/sec to 68.3m/sec		
Refresh Time	≤ 70msec		
Simultaneously Tracked Objects	Up to 256 (126 Reported)		
MECHANICAL			
Weight	330g (0.73lbs)	<1430g (3.15lbs)	<1430g (3.15lbs)
Dimensions	110 x 99 x 31mm	212.6 x 154.6 x 38.15mm	212.6 x 154.6 x 38.15mm
Enclosure	Rugged, Watertight Casing Conforming to IP67		
ENVIRONMENTAL			
Operation Temperature	-40 to +74deg C (-40 to +165deg F)		
Shock; Vibration	100g rms; 14g rms		
GENERAL			
Frequency Band; EIRP	76 to 77GHz	24 to 24.25GHz	24 to 24.25GHz
Power Supply	7 to 32 VDC; <10 Watts		
Connector	12 Pin plug Hirose LF10WBRB 12PD (Bayonet)		
Communication Interface	Ethernet, CAN Bus		
Compatible Interface Modules	HSDPA/UMTS/GPRS/WIFI Modems		
Other Features	Yaw Rate Sensor (3 Axes), Attitude Sensor (3 Axes), Digital Compass, Real Time Clock, Flash Memory for Data Storage		

