

Federal Aviation Administration, DOT

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The recorded values must meet the designated range, resolution and accuracy requirements during static and dynamic conditions. Dynamic condition means the parameter is experiencing change at the maximum rate attainable, including the maximum rate of reversal. All data recorded must be correlated in time to within one second.

Parameters	Range	Accuracy (sensor input)	Seconds per sampling interval	Resolution	Remarks
23. Ground Spoiler Position or Speed Brake Selection ¹² .	Full Range or Each Position (discrete).	±2° Unless Higher Accuracy Uniquely Required.	1 or 0.5 for airplanes operated under § 135.152(j).	0.5% of full range	
24. Outside Air Temperature or Total Air Temperature ¹³ .	– 50 °C to + 90 °C.	±2 °C	2	0.3 °C	
25. Autopilot/ Autothrottle/ AFCS Mode and Engagement Status.	A suitable combination of discretes.	.....	1 .....	.....	Discretes should show which systems are engaged and which primary modes are controlling the flight path and speed of the aircraft.
26. Radio Altitude ¹⁴ .	– 20 ft to 2,500 ft.	±2 ft or ±3% Whichever is Greater Below 500 ft and ±5% Above 500 ft.	1	1 ft + 5% above 500 ft.	For autoland/category 3 operations. Each radio altimeter should be recorded, but arranged so that at least one is recorded each second.
27. Localizer Deviation, MLS Azimuth, or GPS Lateral Deviation.	±400 Microamps or available sensor range as installed ±62°.	As installed ±3% recommended..	1	0.3% of full range.	For autoland/category 3 operations. Each system should be recorded but arranged so that at least one is recorded each second. It is not necessary to record ILS and MLS at the same time, only the approach aid in use need be recorded.
28. Glideslope Deviation, MLS Elevation, or GPS Vertical Deviation.	±400 Microamps or available sensor range as installed. 0.9 to + 30°	As installed ±3% recommended.	1	0.3% of full range.	For autoland/category 3 operations. Each system should be recorded but arranged so that at least one is recorded each second. It is not necessary to record ILS and MLS at the same time, only the approach aid in use need be recorded.
29. Marker Beacon Passage.	Discrete “on” or “off”.	.....	1 .....	.....	A single discrete is acceptable for all markers.
30. Master Warning.	Discrete .....	.....	1 .....	.....	Record the master warning and record each “red” warning that cannot be determined from other parameters or from the cockpit voice recorder.
31. Air/ground sensor (primary airplane system reference nose or main gear).	Discrete “air” or “ground”.	.....	1 (0.25 recommended.).	.....
32. Angle of Attack (If measured directly).	As installed	As installed	2 or 0.5 for airplanes operated under § 135.152(j).	0.3% of full range.	If left and right sensors are available, each may be recorded at 4 or 1 second intervals, as appropriate, so as to give a data point at 2 seconds or 0.5 second, as required.
33. Hydraulic Pressure Low, Each System.	Discrete or available sensor range, “low” or “normal”.	±5%	2	0.5% of full range.	
34. Groundspeed	As installed	Most Accurate Systems Installed.	1	0.2% of full range.	
35. GPWS (ground proximity warning system).	Discrete “warning” or “off”.	.....	1 .....	.....	A suitable combination of discretes unless recorder capacity is limited in which case a single discrete for all modes is acceptable.