DATASHEET

AprilGrid Calibration Target, Aluminium Composite

AprilGrid uses AprilTag 36h11 markers arranged in a regular grid. It is the standard target for Kalibr camera–IMU calibration and is also supported by the OpenCV ArUco module (`cv2.aruco.DICT_APRILTAG_36h11`). Each tag carries a unique ID, so partially visible boards still yield usable detections — useful at field edges where distortion is greatest.

1 Ordering

Part number	Size (W × H)	Tags (rows × cols)	Tag / gap	Markers
CT-APR-P-200150	200 × 150 mm	4 × 6	25 / 7.5 mm	24
CT-APR-P-300200	300 × 200 mm	5 × 7	30 / 9 mm	35
CT-APR-P-400300	400 × 300 mm	6 × 8	35 / 10.5 mm	48
CT-APR-P-600400	600 × 400 mm	7 × 10	45 / 13.5 mm	70
CT-APR-P-800600	800 × 600 mm	9 × 12	50 / 15 mm	108

2 Key specifications

ACCURACY
±0.3 mm + 0.2 mm/m (any tag centre to nominal grid, at 20 °C)

SUBSTRATE
Aluminium / LDPE / aluminium composite, 6 mm

FLATNESS
≤ 0.5 mm per metre, board supported on three points

Unless stated otherwise, dimensions are nominal at 20 °C.

1 Specifications · geometry

FEATURE	SPECIFICATION
Feature position tolerance	±0.3 mm + 0.2 mm/m (any tag centre to nominal grid, at 20 °C)
Tag pitch, mean	±0.05 mm
Tag-to-gap ratio	0.3
Edge radius	R6 mm

2 Specifications · physical

FEATURE	SPECIFICATION
Substrate	Aluminium / LDPE / aluminium composite, 6 mm
Weight	6.6 kg/m² (300 × 200: ≈ 0.4 kg · 800 × 600: ≈ 3.2 kg)
Pattern	Direct UV print, matte, black on white; optical density ≥ 1.6
Flatness	≤ 0.5 mm per metre, board supported on three points
Mounting	4 × M4 threaded inserts on the rear (300 × 200 and larger); ¼″ fixture ACC-A-FIX-14 clamps any size

3 Specifications · environment

FEATURE	SPECIFICATION
Operating temperature	–50 to +80 °C
Thermal expansion	≈ 24 µm/(m·°C)
Storage	–20 to +60 °C, dry
Outdoor lifetime	up to 3 years (UV-stable print)
Cleaning	water or ≤ 70 % isopropyl alcohol, soft cloth

4 Deliverables

INCLUDED		SERVICE	
Inspection report	CT-IR-, per board, dimensional + flatness + visual	Lead time	Made to order · ships in 2–3 weeks
Files	`.opencv.json`, `.kalibr.yaml`, `.ros2.yaml`, `.dxf`	Options	Logo print (-L) · hard case (ACC-A-CSE) · custom NRE
Documents	this datasheet, CT-UM-GEN user manual		

5 Compliance & customs

TOPIC	STATEMENT
RoHS	RoHS-compliant materials.
HS code	`9031 80` Not a toy. not for food contact.

6 Revision history

REV	DATE	CHANGE
A	`2026-10`	First issue, planning values

7 Disclaimer

Values are nominal unless stated as measured; per-unit values are in the inspection report.