

PRODUCT CATALOG 2015



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Since the 1960s, AST has provided robust, high-quality instrumentation products for off-road vehicle applications in Agriculture, Material handling and Construction Equipment. We serve OEMs as well as panel builders and system integrators with reliable and easy-to-integrate products – making it easy to create high-quality, user-friendly instrumentation solutions.

This catalog presents our standard product offering - the result of decades of product evolution and refinement to address market needs. We also offer customized products – in gauges, sensors and clusters – as well as development of totally customized HMI solutions like control panels and dashboards. Contact us for your custom instrumentation needs!

AST is today a product line within maximatecc – a global provider of HMI and vehicle control products and solutions. The maximatecc portfolio includes gauges, instrument clusters, freely programmable displays and on-board computers, machine controllers, wireless communication modules and more. Visit www.maximatecc.com for more information.

The AST product line is managed by the maximatecc team in Barcelona, Spain, where the majority of AST products are also produced.



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APPLICATION NOTES

- Correct application of AST products is the responsibility of the system designer.
- AST gauges should be matched with appropriate AST senders to assure system compatibility.
- For AST gauges, use in applications subject to excessive moisture is not recommended.



AST CLASSIC GAUGES

Robust instruments for OEM applications

DESCRIPTION

Complete range of electrical & mechanical gauges ideal for OEM off-highway, industrial, specialty vehicle application and replacement markets. Easy installation via single bracket. Front sealed and dust proof. AST match - compatible with Jeager and Veglia Borletti ohm values.



SPECIFICATIONS

Size	52 mm diameter gauges, total depth 56 mm +/- 3.0 mm
Dials	Metal, black
Graphics/symbols	White-on-black metric scale/ISO symbols
Pointer	Orange pyramidal shaped
Bezel	Black, anodized; low profile type
Lens	Glass
Case	Polyamide, reinforced
Movement	Air-core movement: 60° sweep
Accuracy	+/- 3.6° within the last 2/3 of scale reading
Lighting	Perimeter lighting/Incandescent bulb, two-pole; 12-volt, 1.2W, bayonet style
Supply voltage	12 VDC; 24 VDC
Operating voltage	10-16 VDC (12-volt); 22-32 VDC (24-volt)
Ohms/resistance	AST electrical "match"
Electrical connections	6.35 x 0.8 mm blade terminals
Installation hardware	Single bracket, brass-plated steel
Sealing	Front-sealed, gasketed; IP 64/DIN 40050 compliant
Operating temperature	-25°C to +65°C
Storage temperature	-30°C to +65°C; maximum 80°C for one hour



AMMETERS

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
105280	20-0-20 A	52	NA	12/24	Black	NA
105281	30-0-30 A	52	NA	12/24	Black	NA
105282	50-0-50 A	52	NA	12/24	Black	NA

FUEL GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
265280	0-1	52	327-8	12	Black	250489
265281	0-1	52	327-8	24	Black	250492

PRESSURE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
355284	0-6 B	52	305-10	12	Black	See "Sndrs"
355285	0-8 B	52	305-10	12	Black	See "Sndrs"
355286	0-10 B	52	305-10	12	Black	See "Sndrs"
355288	0-8 B	52	305-10	24	Black	See "Sndrs"

ENGINE OIL TEMPERATURE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
415290	50-150°C	52	700-35	12	Black	See "Sndrs"
415291	50-150°C	52	700-35	24	Black	See "Sndrs"

VOLTMETERS

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
445280	8-18 V	52	NA	12	Black	NA
445281	16-36 V	52	NA	24	Black	NA

WATER TEMPERATURE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
415280	40-120°C	52	245-75	12	Black	See "Sndrs"
415281	40-120°C	52	245-75	24	Black	See "Sndrs"
416086	40-120°C	60	245-75	12	Black	See "Sndrs"
416087	40-120°C	60	245-75	24	Black	See "Sndrs"

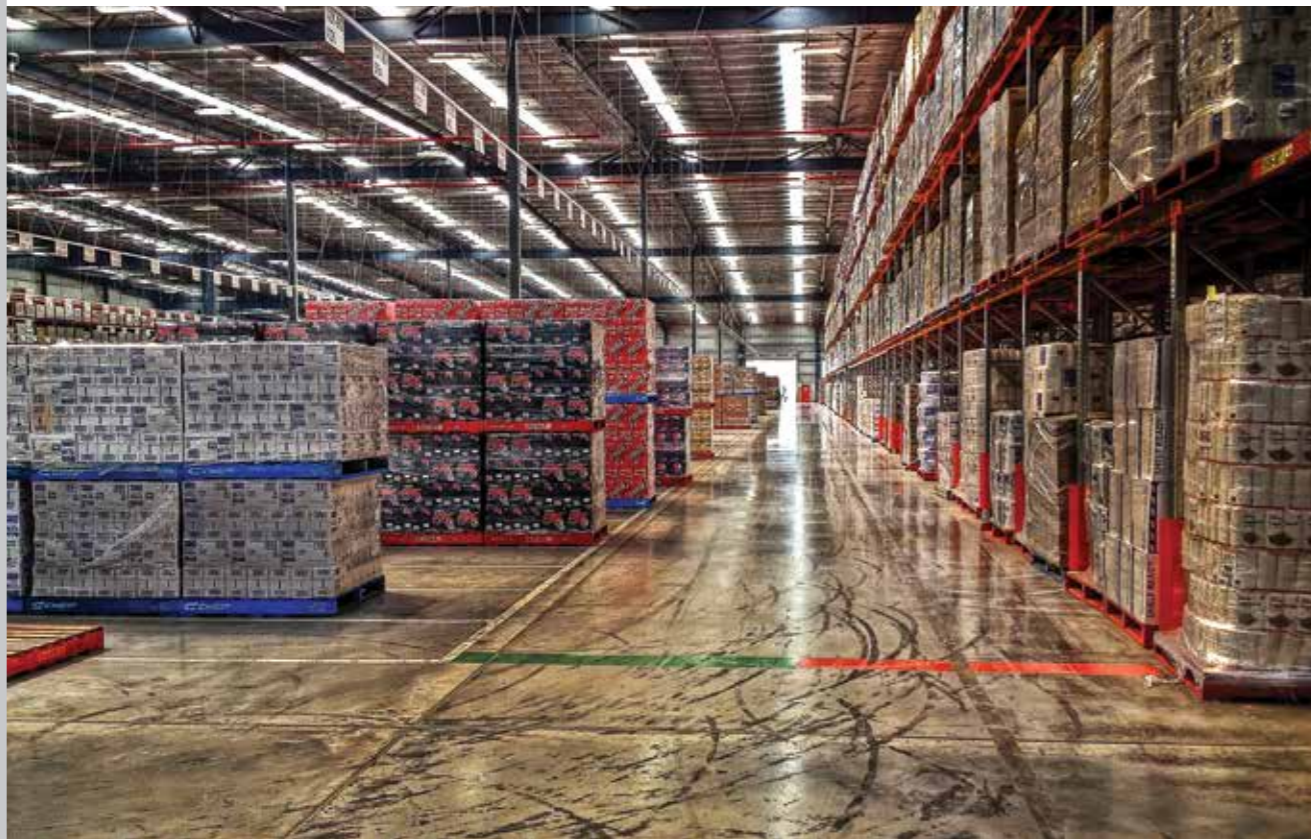


AST SERIE 2000™ GAUGES

Robust instruments for OEM applications

DESCRIPTION

Complete range of electrical gauges, ideal for OEM off-highway, industrial and specialty vehicle application, with 90° sweep lighted pointers. Easy installation with spin-on-mounting ring. Front sealed and dust proof. AST match - compatible with Jeager and Veglia Borletti ohm values.



SPECIFICATIONS

Size	52 mm diameter gauges, total depth 56 mm +/- 3.0 mm
Dials	Polycarbonate, black
Graphics/symbols	White-on-black metric scale/ISO symbols
Pointer	Clear polycarbonate with orange background, black hub, lighted
Bezel	Black, anodized; low-profile type
Lens	Glass
Case	Polyamide, reinforced
Movement	High-torque air-core movement: 90° sweep
Accuracy	+/- 3.6° within the last 2/3 of scale reading
Lighting	Translucent (backlit)/Incandescent bulb, two-pole; 12- volt, J .2W, T-W2 style
Supply/operating voltage	12 VDC; 24 VDC/10-16 VDC (12-volt); 22-32 VDC (24- volt)
Ohms/resistance	AST electrical "match"
Electrical connections	6.35 x 0.8 mm blade terminals
Installation hardware	Spin-on mounting ring, plastic, ABS
Sealing	Front sealed, gasketed; IP 64/DIN 40050 compliant
Operating temperature	-25°C to +65°C
Storage temperature	-30°C to +65°C; maximum 80°C for one hour



AIR BRAKE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
355026	0-12 B	52	305-10	12	Black	See "Sdrs"
355027	0-12 B	52	305-10	24	Black	See "Sdrs"
355053	0-10 B	52	10-180	24	Black	See "Sdrs"

AMMETERS

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
105013	30-0-30 A	52	NA	12/24	Black	See "Sdrs"

ENGINE OIL TEMPERATURE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
415093	50-150°C	52	708-34	12	Black	See "Sdrs"
415094	50-150°C	52	708-34	24	Black	See "Sdrs"
415062	50-150°C	52	322-18	12	Black	See "Sdrs"
415063	50-150°C	52	322-18	24	Black	See "Sdrs"



FUEL GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
265011	0-1	52	327-8	12	Black	250489
265012	0-1	52	327-8	24	Black	250489

HYDRAULIC OIL TEMPERATURE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
415098	20-100°C	52	37-590	12	Black	See "Sdrs"
415097	20-100°C	52	37-590	24	Black	See "Sdrs"

PRESSURE GAUGES

P/N	Scale	Ø mm	Ohms	Volts	Bezel	Sender
355021	0-6 B	52	305-10	12	Black	See "Sdrs"
355022	0-8 B	52	305-10	12	Black	See "Sdrs"
355012	0-8 B	52	305-10	24	Black	See "Sdrs"
355014	0-12 B	52	305-10	24	Black	See "Sdrs"
355054	0-5 B	52	10-180	24	Black	See "Sdrs"
355050	0-10 B	52	10-180	12	Black	See "Sdrs"
355051	0-10 B	52	10-180	24	Black	See "Sdrs"
355033	0-24 B	52	305-10	12	Black	See "Sdrs"
355034	0-24 B	52	305-10	24	Black	See "Sdrs"



AST TACHOMETERS & SPEEDOMETERS

Robust meters for OEM applications

DESCRIPTION

Complete range of electrical and mechanical tachometers and speedometers, ideal for OEM off-highway, industrial and specialty vehicle application. Easy installation with spin-on mounting ring.



SPECIFICATIONS

Size	80, 88 & 100 mm diameter versions (Note: 88 mm products are mechanical only)
Dials	Polycarbonate, black
Graphics/symbols	White-on-black metric scale/ISO symbols
Pointer	Electrical meters: clear polycarbonate with orange background, black hub, lighted; mechanical meters: white with black hub
Bezel	Black, anodized; low-profile type
Lens	Glass
Case	Polyamide, reinforced
Movement	High-torque air-core movement
Indicating tolerance	+/- 3.5% of end-scale total value, from 10-90% of full-scale
Lighting	Translucent (backlit)/incandescent bulb, two-pole; 12-volt, 1.2 W, TW-2 style
Supply/operating voltage	12 VDC; 24 VDC/10-16 VDC (12-volt; 22-32 VDC (24-volt)
Electrical connections	6.35 x 0.8 mm blade terminals
Hardware	Spin-on mounting ring, plastic, ABS
Sealing	Front sealed, gasketed, IP 64/DIN 40050 compliant
Operating temperature	-25°C to +65°C
Storage temperature	-30°C to +65°C; maximum 80°C for one hour



SPEEDOMETERS WITH ODOMETERS

P/N	Scale	Ø mm	Volts	Signal source
57 1002	0-300 KM/H	100	12	Magnetic sensor
57 1003	0-200 KM/H	100	12	Magnetic sensor
571011	0-85 MPH	100	12	Magnetic sensor
578001	0-120 MPH	80	12	Magnetic sensor
578010	0-120 KM/H	80	24	Magnetic sensor
578011	0-60 KM/H	80	24	Magnetic sensor

TACHOMETERS WITHOUT HOURMETERS

P/N	Scale	Ø mm	Volts	Signal source
228010	0-3000 RPM	80	12	Alternator
228011	0-3000 RPM	80	24	Alternator
228012	0-4000 RPM	80	12	Alternator
228015	0-8000 RPM	80	12	Delco
228019	0-4000 RPM	80	12	Alternator
228020	0-4000 RPM	80	24	Alternator



TACHOMETERS WITH HOURMETERS

P/N	Scale	Ø mm	Volts	Signal source
221010	0-4000 RPM	100	12	Alternator
471001	0-3000 RPM	100	12	Alternator
471002	0-4000 RPM	100	12	Alternator
471003	0-3000 RPM	100	24	Alternator
471004	0-4000 RPM	100	24	Alternator
478001	0-3000 RPM	80	12	Alternator
478002	0-3000 RPM	80	24	Alternator
478003	0-4000 RPM	80	12	Alternator
478004	0-4000 RPM	80	24	Alternator
478016	0-4000 RPM	80	12	Alternator
478018	0-3000 RPM	80	24	Alternator

Applications tip: AST speedometers and tachometers are designed to complement Classic and Serie 2000™ gauges. 100 mm diameter units are ideal for heavy-duty, specialty and recreational vehicles where visibility and readability are especially important to customers.

TRACTOMETERS

P/N	Scale	Diameter	Volts	Ratio
458816	0-2500 mm	88	12/24	1:2



MAGNETIC SENSORS						
P/N	Connection	Thread	Ohms	Length (mm)	Probe length (mm)	Wire (mm)
632001	Connector 2-way 4.6 Diameter Male/Female	M20 x 1.5	450 W +/- 20 @ 20°C	20	50	400
632002	Connector 2-way 4.6 Diameter Male/Female	M20 x 1.5	450 W +/- 20 @ 20°C	107	97	365
632004	Connector 2-way 4.6 Diameter Male/Female	M20 x 1.5	450 W +/- 20 @ 20°C	150	140	435
632005	Connector 2-way 4.6 Diameter Male/Female	M20 x 1.5	450 W +/- 20 @ 20°C	70	60	400
632040	AMP Superseal Male 2-way	M20 x 1.5	450 W +/- 20 @ 20°C	60	50	400
633403	Packard Electric "Weather Pack"	3/4" x 16 UNF 2A	450 W +/- 20 @ 20°C	67	57	450
633404	Packard Electric "Weather Pack"	3/4" x 16 UNF 2A	450 W +/- 20 @ 20°C	61	51	300
633405	Two Wires No Terminals	3/4" x 16 UNF 2A	450 W +/- 20 @ 20°C	75	65	500

HOURMETERS			
P/N	Range (hours)	Ø mm	Volts
475205	0-99,999.9	52	12/24
475206	0-99,999.9	52	12/24
475209	0-99,999.9	52	36/80
465201	0-99,999.9	52	10-50 V
465202	0-99,999.9	52	30-100 V
465203	0-99,999.9	52	80-170 V
465204	0-99,999.9	52	160-240 V

Applications tip: AST tachometers and speedometers may be used with either AST Classic or Serie 2000 gauges in combination with appropriate sensors to assure a fully matched system.

Applications tip: A wide range of custom tachometers and speedometers have been developed for OEM customers. Contact us for more information on available variants.



HEAVY DUTY SENDERS & SENSORS

Wide range of heavy duty senders and sensors including fuel, temperature, pressure and speed sensing

FUEL SENDERS

Arm senders with resistor technology in different lengths with or without tubing and with multiple different mounting plate options.

TEMPERATURE SENDERS

Wide range of water and oil temperature senders. maximatecc offers different threads, sender/switch combinations and surface mount option.

PRESSURE SENDERS

Wide range of oil pressure senders and sender switches with different thread size options.

SPEED SENSORS

Sensors based on magnetic pick up technology in brass and plastic versions. All sensors fully sealed per IP67 standard.

FUEL SENDERS						
P/N	Flange (holes)	Low level warning	GRD	Arm length (mm)	Tank depth (mm)	Ohms
250301	6	No	T	290	490	327-8
250314	6	No	T	100	240	327-8
250315	6	No	T	100	260	327-8

FUEL SENDERS						
P/N	Flange (holes)	Low level warning	GRD	Arm length (mm)	Tank depth (mm)	Ohms
250318	6	No	B	190	330	327-8
250326	6	No	B	130	370	327-8
250337	6	No	T	155	267	327-8
250338	6	No	T	155	339	327-8
250341	6	No	T	100	162	327-8
250352	6	No	B	155	348	327-8
250379	6	No	T	290	600	327-8
250428	5	No	B	290	629	327-8
250436	5	No	B	100	260	327-8
250438	5	No	B	100	260	29-1.5
250462	5	No	T	100	380	10-180
250491	5	Yes	T	290	518	6-95
250489	5	No	T	119-186	548 (Adj)	327-8
250492	5	Yes	T	119-186	548 (Adj)	327-8
250493	5	No	T	119-186	548 (Adj)	327-8
250603	6	Yes	B	100	270	327-8
250608	6	Yes	B	190	380	327-8
250621	6	Yes	B	190	328	327-8
250624	6	Yes	B	190	355	327-8
250641	6	Yes	B	100	215	N/A
250650	6	No	B	190	348	10-180
250661	6	Yes	B	50	100	327-8
250662	6	Yes	B	50	200	327-8
250664	6	Yes	B	50	100-350 (Adj)	327-8
250692	6	Yes	T	119-186	548 (Adj)	327-8

Note: B = metal body; T = terminal but not isolated.



TEMPERATURE SENDERS					
P/N	Connection	Thread	Ohms	Length (mm)	Probe length (mm)
400001	Blade terminal	Surface Contact	213-67	-	-
401001	Blade terminal	M10x1	213-67	46	22
401201	Blade terminal	1/2x14 NPFT	213-67	55	33
401203	Blade terminal	1/2" 14 NPTF	481-75	54	31
401408	Blade terminal	M14x1.5	213-67	42	21
401411	Blade terminal	M14x1.5	10-180	43	21
401610	Blade terminal	M16x1.5	213-67	42	21
401807	Blade terminal	M18x1.5	213-67	42	21
401851	Blade terminal	1/8"27 NPTF	213-67	46	22
403802	Blade terminal	3/8" GAS 19h	213-67	42	21
405015	Two blade terminals	5/8" UNF	213-67 & normally open 96°C switch point	46	18
405016	Two blade terminals	M14x1.5	213-67 & normally open 100°C switch point	72	40
405017	Two blade terminals	5/8" UNF	213-67 & normally open 102°C switch point	48	18
405019	Two blade terminals	M14x1.5	10-180 & normally open 98°C switch point	72	40
405806	Blade terminal	5/8"-18UNF	213-67	55	34
405807	Blade terminal	5/8"-18UNF	213-67	42	21
405811	Blade terminal	5/8"-18UNF	213-67	49	27



FUEL SWITCHES						
P/N	Flange (holes)	Low level warning	Ground	Connection	Total length	Ohms
250801	6	Yes	B	Blade	316	327-8

TEMPERATURE SWITCHES							
P/N	Connection	Thread	Switch point	Length (mm)	Probe (mm)	Volts	Isolated ground
500325	Blade terminal	5/8"x18 UNF	Normally open 80°C	38	10	6-12	No
501001	Two blade terminals	M10x1	Normally open 85°C	36	8	6-12	Yes
501204	Blade terminal	1/2"x14 NPTF	Normally open 105°C	50	22.5	6-12	No
501409	Blade terminal	M14x1.5	Normally open 120°C	59	29	6-12	No
501410	Blade terminal	M14x1.5	Normally open 100°C	59	29	6-12	No
501411	Two blade terminals	1/8"x27 NPTF	Normally open 47°C	40	12	6-12	Yes
501412	Two blade terminals	M14x1.5	Normally open 77°C	39	11	6-12	Yes
501413	Blade terminal	M14x1.5	Normally open 115°C	50	24.5	6-12	No
501414	Screw M4	M14x1.5	Normally open 97°C	56	29	6-12	No
501426	Two blade terminals	M14x1.5	Normally open 130°C	63	35	6-12	Yes
505806	Blade terminal	5/8"x18 UNF	Normally open 120°C	60	29	6-12	No
505828	Blade terminal	5/8"x18 UNF	Normally open 110°C	38	10	6-12	No



AST COMPATTINO CLUSTERS

Compact standard instrument clusters

DESCRIPTION

Compattino is a compact standard instrument cluster designed for off-highway equipment and specialty vehicles. The Compattino cluster is a state-of-the-art design, based on our long and deep experience from developing customized clusters for leading CE and AG OEMs.

The Compattino cluster is available in two models; The Base model with analog sensor inputs and the DeLuxe model with CAN interface. Compattino clusters come with stepper motors and LED lighting and the DeLuxe model has a LCD or dot-matrix display for providing additional operator support information. In the table at the end of next page you find part numbers for ordering of samples.

The Compattino design is highly configurable to specific application needs. A typical configuration is to customize the overlay so that the warning light set-up and respective icons are adapted for the application. Another example is to alter the gauge set-up, for example by replacing the water temperature gauge with an oil pressure gauge.



SPECIFICATIONS

Size	230 x 120 x 47.5 mm
Weight	0.44/0.96 kg/lbs
Display type	LCD hourmeter with 6 digits, TFT with LED backlight
Indicators	19 LED status indicators; red, amber, green, blue
Inputs/outputs	
Fuel gauge	Input based on resistive type sender with ohms resistance 240-33.5Ω or Maxima IntelliSensor® fuel sensor using 1-4V input
Temperature gauge	Based on resistive input
Tachometer	Input via magnetic pick-up or alternator connected
Indicators	All 12 indicators STG or STB (ref. pins 6-17)
Lighting	Controlled via pin 16 (positive power supply)
Ground	1 ground (pin 1)
Voltage	12V nominal, 9-16V range; 24V optional
Electrical protection	Reverse polarity, transients including load-dump, over-voltage, and ESD
Current	Standby current draw <7 mA
IP class	Front IP 67 / Rear IP 66
Temperature range (°C)	-40°C to +85°C (operating/storage)
EMC conformity	ISO 17366
SAE compliant	Moisture, shock & vibration resistant
Housing	UV-resistant PC overlay
Connectors	26-pin Amp connector
Mounting	Panel installation via 4 tabs

P/N	Description
122050	Compattino Base, analog sensor inputs
122703	Compattino DeLuxe, sensor inputs via CAN, with dot matrix display





Photos

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