

Advanced Power Monitor

Performance Monitoring of Tx Forward and Reflected Power, Tx Combiner Insertion Loss, Rx Subsystem (Rx Antenna/TTA/RMC), Tx-to-Rx Antenna Isolation and Tx-to-Rx Carrier Rejection
APM Series

VHF, UHF, 7/800MHz and 8/900MHz

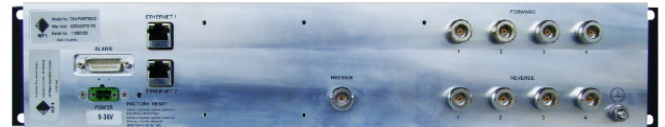


The APM provides comprehensive RF performance measurement, monitoring and alarming of Tx forward and reflected powers, combiner losses, and Rx RSSI levels on a truly channelized basis - for up to 80 channels. It also provides unique measurement, monitoring and alarming of the Rx subsystem (Rx Antenna/TTA/RMC), Tx-to-Rx Antenna Isolation(s), and Tx-to-Rx Carrier Rejection performance. The Antenna Line Coupler(s) is inserted after the Tx combiner on the antenna feeder cable. All frequencies, channel bandwidths and level thresholds are software definable. A DB15 rear mounted connector provides alarm relay outputs that can be hardwired into most alarm reporting facilities. Configuration, diagnostics and communication management are facilitated through the use of an on-board webserver GUI. The APM is available in four different bands covering VHF, UHF, 7/800MHz and 8/900MHz frequency ranges.

- True channelized power and VSWR metering for multi-channel, digital and analog systems.
- Non-intrusive measurement of Tx forward and reflected power and Rx RSSI levels for up to 80 channels - and System Rx Subsystem, Antenna Isolation(s) and Tx-to-Rx Carrier Rejection performance
- Accommodates up to four (or more) separate transmitter combiners
- Integral webserver GUI for Measurement value, History Chart and Alarm Status viewing, and unit configuration
- Supplied with one Antenna Line Coupler, additional couplers ordered separately.
- Supported by Genesis GenWatch® and C² Systems SitePortal® software packages
- Supports SNMP GET and Traps, SMTP (Email), and Relay outputs for alarm reporting
- Optional Site Alarm Module (SAM) and Receive Systems Module (RSM) for enhanced functionality



FRONT VIEW



REAR VIEW

Model APMxxxxK2	1317	3852	7487	8796
Frequency Range (Tx power and Rx level monitoring)	132-174MHz	380-520MHz	746-870MHz	870-960MHz
Maximum number of monitored channels	80 Tx and 80 Rx			
Tx Forward power monitoring port inputs	4 sets (notes #4 and #5)			
Available Rx RSSI level monitoring ports	1			
Rx monitoring port input range	-110dBm to -50dBm			
Frequency channel step size (Tx & Rx)	1.25kHz			
Channel measurement bandwidths	12.5kHz and 25kHz			
Accuracy - per channel power change (Δ dBm)	+/-0.2dBm			
Conducted and Radiated emissions	Complies with FCC Part 15 (15.207) and (15.209)			
RF Termination connectors	N (F)			
Communication interface ports	2 x rear mounted TCP/IP Ethernet ports (RJ45)			
Internal alarm relay contacts output connector	Rear mounted DB15 (M)			
Visual alarm notification	Front panel mounted LED's			
Configurable alarms	Tx FWD Power / Tx Reflected Power (VSWR) / Rx RSSI Rx Subsystem Performance / Tx-Rx Antenna(s) Isolation / Tx-to-Rx Carrier Rejection (Optional Temperature / Voltage / Digital Inputs and additional Alarm Relay Outputs when using SAM) (Optional Diversity Receivers / Isolated External Monitoring Antenna using RSM)			
Power Supply Options and Consumption	9-36VDC, 36-60VDC or 100-240VAC @ <10W (notes #1, #2, and #3)			
DC power connector	Polarized 2-pin Phoenix connector			
Mounting	2RU 19" rack mounting			
Dimensions	19x2x3.5" / 483x50x89mm (incl connectors)			
Weight	< 4.84lbs / 2.2kgs			
Operational temperature range	22° F to 140° F / -30° C to +60° C			

NOTES:

#1 The APM AC option is available as a 9-36VDC unit, provided with an external AC-DC plug pack, or a 36-60VDC unit, provided with an external AC-DC plug pack. The 36-60VDC unit is now shipped as the default AC version unless otherwise requested.

#2 A mounting bracket for the AC-DC plug pack is available as an option.

#3 Nominate required operating voltage range with order.

#4 Coaxial interconnect cables between ALC and APM are not provided as lengths may vary depending on decided rack layout.

#5 Supplied with one Antenna Line Coupler, additional couplers ordered separately.

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Performance Monitoring of FWD and RFL Tx Power, Combiner loss, Rx RSSI and Tx-to-Rx System Isolation

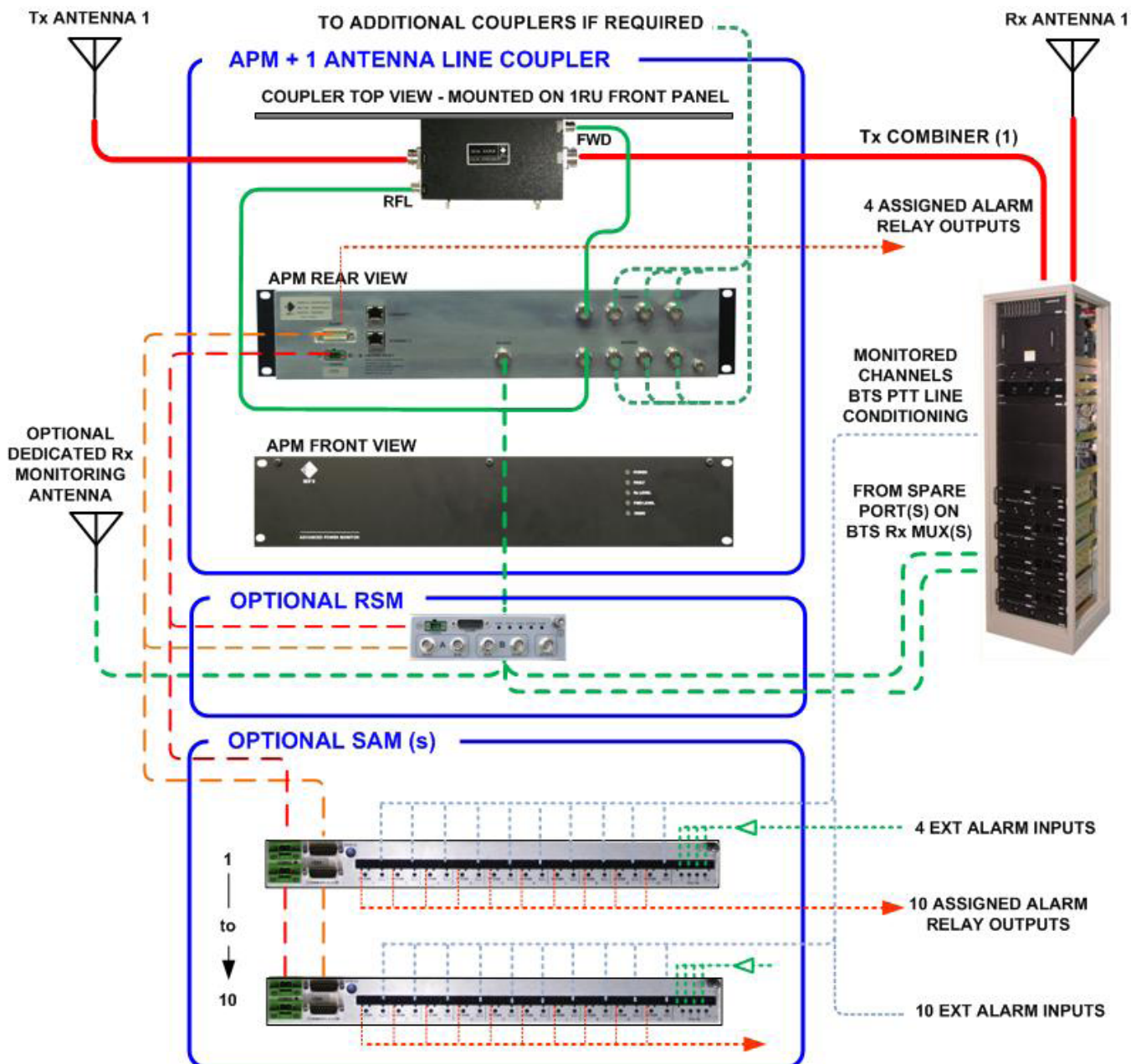
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Antenna Line Coupler SPxxx-x440-DF1RU	1318-2	3855-4	7496-4 (Note*1)
Frequency Range	130-180MHz	380-550MHz	746-960MHz
Insertion Loss		<0.2dB	
Input and Output Return Loss		>20dB	
Coupling Loss		40dB (+/-0.7dB)	
Maximum Input Power		750W	
Maximum PIP		16kW (+72dBm)	
PIM 3rd OIP (2x 43dBm carriers)		>150dBc	
Termination Connectors - "To Antenna" / "From Combiner"		7/16DIN (F)	
Termination Connectors - FWD and RFL coupling ports		N (F)	
Mounting		1RU 19" rack mounting	
Depth Dimensions	D 3"/77mm	D 5.2"/132mm (incl studs/conn)	
Weight	<3.52lbs / 1.6kg	<4.4lbs / 2kg	<3.3lbs / 1.5kg
Operational temperature range	14°F to 140°F / -10°C to +60°C		

TYPICAL 7/800MHz APPLICATION DIAGRAM



Australian Standard Patent No. 2011218778 Australian Patent Application No. 2016250327 U.S. Patent No. 8,983,415 U.S. Patent Application No. 15/343,133

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Ordering Information		
Motorola E-CAT Number	RFI Part Number	Description
DSAPM1317K2	APM1317K2	APM 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC (incl 1 ALC)
DSAPM1317K248	APM1317K248	APM 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC (incl 1 ALC)
DSAPM1317K2AC	APM1317K2AC	APM 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC / 100-240VAC (incl 1 ALC)
DSAPM1317K248AC	APM1317K248AC	APM 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC / 100-240VAC (incl 1 ALC)
DSAPM3852K2	APM3852K2	APM 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC (incl 1 ALC)
DSAPM3852K248	APM3852K248	APM 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC (incl 1 ALC)
DSAPM3852K2AC	APM3852K2AC	APM 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC / 110-240VAC (incl 1 ALC)
DSAPM3852K248AC	APM3852K248AC	APM 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC / 110-240VAC (incl 1 ALC)
DSAPM7487K2	APM7487K2	APM 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC (incl 1 ALC)
DSAPM7487K248	APM7487K248	APM 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC (incl 1 ALC)
DSAPM7487K2AC	APM7487K2AC	APM 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC / 100-240VAC (incl 1 ALC)
DSAPM7487K248AC	APM7487K248AC	APM 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC / 100-240VAC (incl 1 ALC)
DSAPM8796K2	APM8796K2	APM 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC (incl 1 ALC)
DSAPM8796K248	APM8796K248	APM 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC (incl 1 ALC)
DSAPM8796K2AC	APM8796K2AC	APM 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36VDC / 100-240VAC (incl 1 ALC)
DSAPM8796K248AC	APM8796K248AC	APM 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60VDC / 100-240VAC (incl 1 ALC)

Additional Couplers		
DSSP13182440DFF1RU	SP1318-2440-DFF1RU	Antenna Line Coupler 130-180MHz DD-C 40dB 4-P In /Out DIN (F) CPL N (F) 750W 1RU
DSSP38554440DFF1RU	SP3855-4440-DFF1RU	Antenna Line Coupler 380-550MHz DD-C 40dB 4-P In /Out DIN (F) CPL N (F) 750W 1RU
DSSP74964440DFF1RU	SP7496-4440-DFF1RU	Antenna Line Coupler 740-960MHz DD-C 40dB 4-P In /Out DIN (F) CPL N (F) 750W 1RU

Optional AC-DC PSU Power Pack Mounting Bracket		
DSHW0000203011	HW0000-2030-11	Rear facing AC-DC PSU Power Pack mounting bracket kit.

Optional Channel Alarm Module		
DSSAM0000	SAM0000	Site Alarm Module, 10 Digital Inputs, 4 Temperature / Analogue / Digital Inputs, 10 Relay Outputs 9-36 VDC
DSSAM000048	SAM0000-48	Site Alarm Module, 10 Digital Inputs, 4 Temperature / Analogue / Digital Inputs, 10 Relay Outputs 36-60 VDC
DSSAM0000TS	SAM0000-TS	Site Alarm Module, Temperature Sensor c/w 15ft / 5m cable
DSSAM0000CK	SAM0000-CK	Site Alarm Module, Connector Kit, 10 x 2way / 10 x 3way / 1 x 8way connectors

Accessories		
DSAPM0000USAC	APM0000USAC	Plugpack 90-264VAC 12VDC c/w 6ft/1.8m USA IEC Power Cable
DSAPM0048USAC	APM0048USAC	Plugpack 90-264VAC 48VDC c/w 6ft/1.8m USA IEC Power Cable