

Advanced Power Monitor

Performance Monitoring of FWD and RFL Tx Power, Combiner loss, option enabled Tx-to-Rx Antenna Isolation and Rx RSSI.
 APMxxxxK2 Series (Motorola only)
 VHF, UHF, 7/800MHz and 8/900MHz



Antenna Line Coupler SPxxxx-x440-DFF1RU	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	

Note* 1: The SP7496-4440-DFF1RU is used with the APM7487K2 and APM8796K2 Series

Ordering Information

Motorola E-CAT Number	RFI Part Number	Description
DSAPM1317K2	APM1317K2	Advanced Power Monitor 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36V DC (incl 1 ALC)
DSAPM1317K248	APM1317K248	Advanced Power Monitor 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60V DC (incl 1 ALC)
DSAPM1317K2AC	APM1317K2AC	Advanced Power Monitor 132-174MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 100-240VAC (incl 1 ALC)
DSAPM3852K2	APM3852K2	Advanced Power Monitor 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36V DC (incl 1 ALC)
DSAPM3852K248	APM3852K248	Advanced Power Monitor 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60V DC (incl 1 ALC)
DSAPM3852K2AC	APM3852K2AC	Advanced Power Monitor 380-520MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 110-240VAC (incl 1 ALC)
DSAPM7487K2	APM7487K2	Advanced Power Monitor 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36V DC (incl 1 ALC)
DSAPM7487K248	APM7487K248	Advanced Power Monitor 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60V DC (incl 1 ALC)
DSAPM7487K2AC	APM7487K2AC	Advanced Power Monitor 746-870MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 100-240VAC (incl 1 ALC)
DSAPM8796K2	APM8796K2	Advanced Power Monitor 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 9-36V DC (incl 1 ALC)
DSAPM8796K248	APM8796K248	Advanced Power Monitor 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 36-60V DC (incl 1 ALC)
DSAPM8796K2AC	APM8796K2AC	Advanced Power Monitor 870-960MHz 80 Ch - 4 Tx FWD/RFL / 1 Rx Port 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

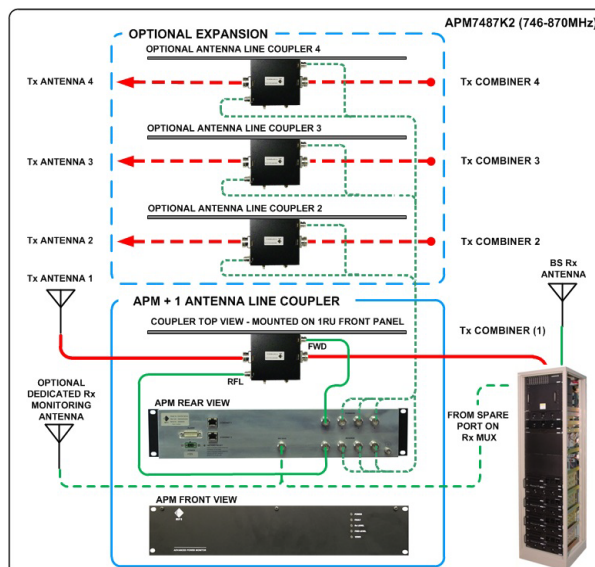
Optional AC-DC PSU Power Pack Mounting Bracket.

DSHW0000203011	HW0000-2030-11	Rear facing AC-DC PSU Power Pack mounting bracket kit.
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Optional Channel Alarm Module.

DSCAM0000	CAM0000	Channel Alarm Module, PTT activated 10 Channel, 4 Ext Alarm Inputs, 9-36VDC
DSCAM00048	CAM0000-48	Channel Alarm Module, PTT activated 10 Channel, 4 Ext Alarm Inputs, 36-60VDC

TYPICAL 7/800MHz APPLICATION DIAGRAM



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US Patent Application No. 13/227,643. Australian Patent Application No 20112218778

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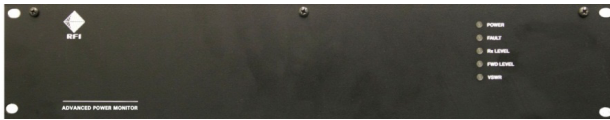
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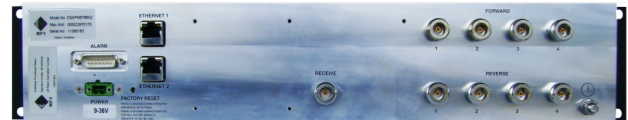


The Advanced Power Monitor (APM) provides channel specific forward and reflected transmitted power and combiner loss monitoring, and optional Tx to Rx antenna system isolation measurement and Rx RSSI levels for up to 80 channels. Four separate forward and reflected paired power measurement inputs facilitate in-line monitoring via high power, low PIM and low loss Antenna Line Coupler. The Antenna Line Coupler 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 reporting outputs that can be hardwired into most alarm reporting facilities. The LED's on the front panel of the APM allow visual confirmation of the hardwired alarm outputs. 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 per channel forward power, VSWR and combiner insertion loss on site or remotely.
- Individual channel monitoring of up to 80 Tx and or Rx channels.
- Accommodates up to four separate transmitter combiners.
- Remote and or on-site VSWR / FWD power alarm date and time stamp logging function
- Performance monitoring, configuration and alarm threshold level setting via RJ45 Ethernet ports.
- Supplied with one Antenna Line Coupler, additional couplers ordered separately.
- To be supported by an APM module in GENWATCH3 V3.2.8 Software
- Capable of generating SNMP v2 North Bound alarm traps to MIB server.
- Programmable to send email alarm notifications to up to four email addresses.
- Accommodates optional Channel Alarm Modules for dedicated hardwired and PTT conditioned channel alarms.



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 or optional Rx channels)			
Available Tx forward power monitoring port inputs	4			
Available Rx RSSI level monitoring ports	1 (note #6)			
Rx monitoring port input range	-110dBm to -50dBm (note #6)			
Frequency channel step size (Tx & Rx)	6.25kHz			
Channel measurement bandwidths	12.5kHz and 25kHz			
Max spurious or IM products	-30dBm			
Accuracy - per channel power change (Δ dBm)	+/-0.2dBm			
Conducted emissions	Complies with FCC Part 15 (15.207)			
Radiated emissions	Complies with FCC Part 15 (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	Summary Fault/ Tx FWD power / VSWR / RSSI (Ant Isolation)			
Power supply options	9-36VDC, 36-60VDC or 100-240VAC (note # 1&3)			
Power Consumption	<10W			
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			

NOTE
 #1 The APM AC option is a 9-36VDC unit, provided with an external AC-DC plug pack. #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 not provided as lengths may vary depending on available mounting positions within the rack. #5 Supplied with one Antenna Line Coupler, additional couplers ordered separately.
 #6 Integral Rx Channel RSSI Monitoring & Tx-Rx antenna isolation measurement features require enabling for use.

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