

MiniSystem Combiner

VHF

4 Channel Compact Combining System - Single Antenna operation - with Rx Preamplifier

MSxxxx-0405-SP



The MiniSystem Combiner (MSC) is an innovative solution that simplifies the design, quotation, procurement and installation of RF combining for applications requiring 1-4 RF channels. It caters for most standard frequency sub-bands, channel spacings and Tx-Rx frequency separations. The MSC Tx combiner uses dual stage isolators and hybrid combining techniques to provide Tx-Tx isolation and to minimise intermodulation (IM) impacts. The Rx system uses an ultra low noise preamplifier with user-selectable gain and excellent 3OIP performance, with a multi-way output divider to ensure optimum system receive sensitivity is available. Integral high quality bandpass filtering provides high Rx selectivity and Tx-Rx system isolation performance. Form-C relay outputs provide alarm notification of DC power or Rx LNA amplifier failure. The MSC is available in sub-bands covering VHF, UHF and 800MHz frequency ranges.

Features:

- 4 channel capacity
- 50W Tx input power (per channel)
- 100% Tx Duty Cycle
- Open-circuit antenna port VSWR protection
- Ultra low noise receiver preamplifier
- User-selectable Rx gain
- DC power and Rx LNA Fail alarm monitoring
- Compact 19in rack mounting



FRONT VIEW



REAR VIEW

Specifications

Model MSxxxx-0405-SP	1313	1314	1415	1516	1517	1616	1617
Frequency Range (MHz)	132-142	138-148	148-158	155-165	151-172	160-170	164-174
Tx Channel Capacity	4						
Tx Input Power	≤ 50W per channel						
Tx Duty Cycle	≤ 100% per channel						
Tx-Tx Bandwidth	1.0MHz						
Tx Insertion Loss	9dB typ.						
Tx-Tx Isolation	> 60dB						
Tx-Ant Isolation	> 50dB						
Tx-Rx Isolation	65dB min. (70dB typ.)						
Tx Input Return Loss	20dB typ.						
Tx-Rx Separation	4MHz min.	4MHz min.	4MHz min.	4MHz min.	21MHz min.	4MHz min.	4MHz min.
Rx Channel Capacity	4						
Rx-Rx Bandwidth	1.0MHz						
Rx System Gain	0dB to 30dB (in 1dB steps)						
Rx LNA Noise Figure	< 2dB (1.2dB typ.)						
Rx Maximum Input Level	-10dBm						
Rx-Rx Isolation	> 18dB						
Rx Output Return Loss	> 20dB						
Impedance	50 ohms (all RF ports)						
Alarms	DC Supply Voltage Low, Rx LNA Fail						
Alarm Outputs	Dry Relay Form-C (N.C./N.O./CMN)						
RF Connectors	Tx = N (female) Rx = BNC (female)						
DC Connector	2pin 5mm Phoenix (mating plug supplied)						
Alarm Connector	3pin 5mm Phoenix (mating plug supplied)						
Enclosure	3RU + 4RU 19in Rack Mount (Black)						
DC Power Requirements	+11VDC to +28VDC 3.5W typ. (polarity protected)						
IP Rating	Indoor Use Only						
Temperature Range	- 30 C to 60° C / - 22° F to 140° F						
Dimensions (HxWxD)	313x483x430mm (12.33x19x17in)						
Weight	22.5Kg (49.5lbs)						

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Ordering Information	
RFI Part Number	Description
MS1313-0405-SP	MiniSystem Combiner, 132-142MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted
MS1314-0405-SP	MiniSystem Combiner, 138-148MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted
MS1415-0405-SP	MiniSystem Combiner, 148-158MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted
MS1516-0405-SP	MiniSystem Combiner, 155-165MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted
MS1517-0405-SP (Note: 21MHz Tx-Rx)	MiniSystem Combiner, 151-172MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted
MS1616-0405-SP	MiniSystem Combiner, 160-170MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted
MS1617-0405-SP	MiniSystem Combiner, 164-174MHz, 4 Channel, 50 Watt, Single Antenna Operation, Preamplifier fitted