

PASSIVE AND ACTIVE RF COMPONENTS

RCD RADIOKOMUNIKACE



RCD Radiokomunikace spol. s r. o. | U Pošty 26, 533 52 Staré Hradiště – Pardubice | Czech Republic
phone: +420 466 415 755 | Sales department E-mail: sales@rcd.cz

www.rcd.cz



CATALOGUE 2018/1



SUCCESSOR TO THE THRONE
OF TELEGRAFIA AND TESLA PARDUBICE
IN THE KINGDOM OF RADIOCOMMUNICATION

PROVIDER OF ITS OWN RADIO SOLUTION TO:

- ALL ROAD TUNNELS IN THE CZECH REPUBLIC
- ALL STATIONS OF PRAGUE METRO FOR EMERGENCY SERVICES AND MOBILE OPERATORS
- RADIO NETWORKS FOR SPECIAL FORCES OF THE CZECH POLICE
- DEVELOPMENT AND PRODUCTION OF CUSTOMIZED HIGH-FREQUENCY DEVICES
- LOCOMOTIVES IN TERRITORIES OF GERMANY, FRANCE AND THE BENELUX COUNTRIES

Company Profile

Name RCD Radiokomunikace spol. s r. o.
Address U Pošty 26, 533 52 Staré Hradiště
Region Pardubice, Czech Republic
Established 1993

Main Activities R&D of Radio Equipment and Solutions
Production and Turnkey Delivery
including Hotline Services 24 hours



Antennas of TETRAPOL Radio System



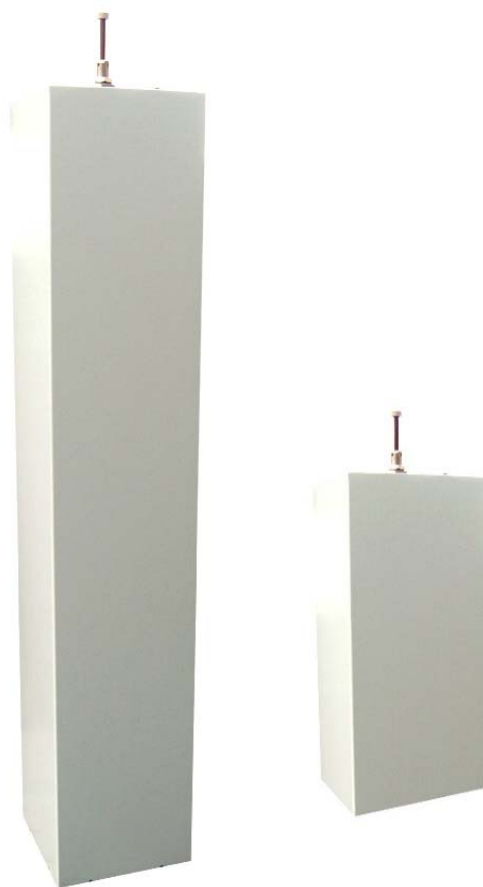
Road Tunnel Technology Assembling

RCD Radiokomunikace was established in 1993 and through its activities and results continues the long tradition of electronic production in Pardubice area.

RCD Radiokomunikace develops and produces customized high frequency solutions and equipment including antennas, filters, radio repeaters and radio accessories used especially by the Police and Fire Brigade working in emergencies.

RCD Radiokomunikace supplies turnkey radio solutions in underground areas, large buildings, road and railway tunnels and metros. The company is able to respond flexibly to special customer requirements on the 24-hours hotline base using components from its own development and production.

RCD Radiokomunikace is a holder of certificate EN ISO 9001. Company is also certified by National Security Authority of the Czech Republic for classification level secret.

DP 75 / 105
DP 100 / 105
DP 160 / 105
DP 300 / 105
DP 450 / 105
DP 900 / 105


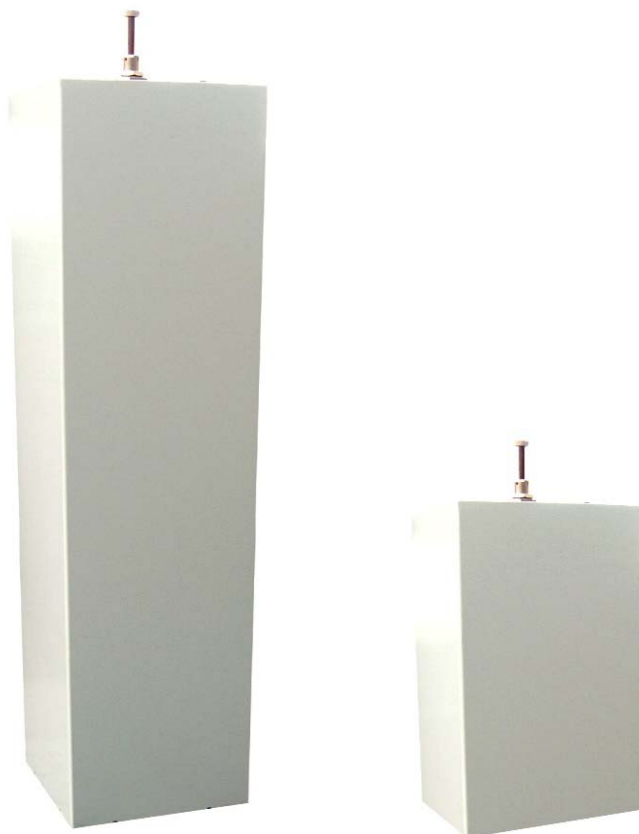
Description

DP xxx / 105 bandpass cavity filters are high selective quarter wave resonators. They are applicable to combiners or duplexers.

Bandpass filter is connected between antenna and transmitter or receiver for **suppression of interferences**.

Technical Specifications

| Parameter | Value | | | | | | Units |
|--------------------------------------|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------|
| Type | DP 75 / 105 | DP 100 / 105 | DP 160 / 105 | DP 300 / 105 | DP 450 / 105 | DP 900 / 105 | |
| Frequency range | 60 ÷ 90 | 70 ÷ 110 | 140 ÷ 180 | 300 ÷ 400 | 380 ÷ 500 | 780 ÷ 1000 | MHz |
| Insertion loss | adjustable 0.5 ÷ 3 | | | | | | dB |
| Operating temperature | -40 ÷ +60 | | | | | | °C |
| Maximum input power / insertion loss | 200 / 0.5 125 / 1 75 / 2 | | | | | | W / dB |
| Weight | 6 | 5 | 3 | 2 | 2 | 1,5 | kg |
| Dimensions w × h × d | 105×1340×105 | 105×1170×105 | 105×610×105 | 105×320×105 | 105×270×105 | 105×200×105 | mm |
| Connector type | N female | | | | | | |

DP 75 / 210
DP 100 / 210
DP 160 / 210
DP 300 / 210
DP 450 / 210


Description

DP xxx / 210 bandpass cavity filters are high selective quarter wave resonators. They are applicable to combiners or duplexers.

Bandpass filter is connected between antenna and transmitter or receiver for **suppression of interferences**.

Technical Specifications

| Parameter | Value | | | | | Units |
|--------------------------------------|---------------------------------|--------------|--------------|--------------|--------------|--------|
| Type | DP 75 / 210 | DP 100 / 210 | DP 160 / 210 | DP 300 / 210 | DP 450 / 210 | |
| Frequency range | 60 ÷ 90 | 70 ÷ 110 | 140 ÷ 180 | 300 ÷ 400 | 380 ÷ 500 | MHz |
| Insertion loss | adjustable 0.5 ÷ 3 | | | | | dB |
| Operating temperature | -40 ÷ +60 | | | | | °C |
| Maximum input power / insertion loss | 500 / 0.5 350 / 1 200 / 2 | | | | | W / dB |
| Weight | 11 | 9 | 6 | 4 | 3 | kg |
| Dimensions w × h × d | 210×1925×210 | 210×1755×210 | 210×845×210 | 210×475×210 | 210×420×210 | mm |
| Connector type | N female | | | | | |



Electrical Specifications

| Parameter | Value | Units |
|--------------------------|-----------|--------|
| Operating frequency band | 380 ÷ 470 | MHz |
| Insertion loss | 0.3 | dB max |
| | 0.2 | dB typ |
| Rejected band | DC ÷ 170 | MHz |
| Rejection | 35 | dB min |
| | 40 | dB typ |
| Return loss | 18 | dB min |
| | 20 | dB typ |
| Power handling per port | 10 | W CW |
| Impedance | 50 | Ω |

Mechanical Specifications

| Parameter | Value | Units |
|-----------------|----------------------|-------|
| Outside finish | black matt, RAL 9005 | |
| Dimensions | 98 × 63 × 26 | mm |
| Connectors type | 2× N female | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Ingress protection | IP 65 | |
| Operating temperature | -30 ÷ +75 | °C |



Description

XF 4308 bandpass filter in TETRAPOL RX band (380-385 MHz) consists of four helical resonators.

Electrical Specifications

| Parameter | Value | Units |
|----------------------|-----------|----------|
| Frequency range | 380 ÷ 385 | MHz |
| Bandwidth | 5 | MHz |
| Insertion loss | 3.0 | dB max |
| | 2.5 | dB typ |
| Stopband attenuation | 40 | dB min |
| Input power | 50 | W |
| Impedance | 50 | Ω |
| VSWR | < 1.3 | |

Mechanical Specifications

| Parameter | Value | Units |
|----------------------|--------------|-------|
| Dimensions w × h × d | 95 × 70 × 55 | mm |
| Weight | 375 | g |
| Connectors type | SMA female | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Ingress protection | IP 40 | |
| Operating temperature | -30 ÷ +75 | °C |



Description

XF 4309 bandpass filter in TETRAPOL TX band (390-395 MHz) consists of four helical resonators.

Electrical Specifications

| Parameter | Value | Units |
|----------------------|-----------|--------|
| Frequency range | 390 ÷ 395 | MHz |
| Bandwidth | 5 | MHz |
| Insertion loss | 3.0 | dB max |
| | 2.5 | dB typ |
| Stopband attenuation | 40 | dB min |
| Input power | 50 | W |
| Impedance | 50 | Ω |
| VSWR | < 1.3 | |

Mechanical Specifications

| Parameter | Value | Units |
|----------------------|--------------|-------|
| Dimensions w × h × d | 95 × 70 × 55 | mm |
| Weight | 375 | g |
| Connectors type | SMA female | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Ingress protection | IP 40 | |
| Operating temperature | -30 ÷ +75 | °C |



Description

XF 4310 and XF 4311 bandpass filters in 160 MHz band consist of four helical resonators. The filters differ from each other by the shape of the bandpass.

Electrical Specifications

| Parameter | Value | | | Units |
|----------------------|-----------|---|-----|--------|
| Frequency range | 146 ÷ 174 | | | MHz |
| Bandwidth | 3 | 6 | 12 | MHz |
| Insertion loss | 1.5 | 1 | 0.5 | dB max |
| Stopband attenuation | 70+ | | | dB |
| Input power | 20 | | | W |
| Impedance | 50 | | | Ω |
| VSWR | < 1.3 | | | |

Mechanical Specifications

| | | |
|----------------------|---------------|----|
| Dimensions w × h × d | 131 × 90 × 38 | mm |
| Weight | 724 | g |
| Connectors type | SMA female | |

Environmental Specifications

| | | |
|-----------------------|-----------|----|
| Ingress protection | IP 40 | |
| Operating temperature | -20 ÷ +70 | °C |



Description

XA 2012 splitter is designed for two-way symmetric splitting of radio signal or combining of two signals into common output. Splitter is applicable to coaxial cable distribution systems of radio networks inside large buildings, tunnels, metro, railway stations, airport terminals etc.

It works in broad frequency range. Input and outputs are adjusted for impedance 50 ohm.

Technical Specifications

| Parameter | Value | Units |
|----------------------|----------------|----------|
| Frequency range | 75 ÷ 870 | MHz |
| Splitting ratio | 1 : 2 | |
| Split loss | 3.5 | dB |
| VSWR for "C" port | < 1.4 | |
| Maximum input power | 40 | W |
| Isolation | 20 | dB |
| Impedance | 50 | Ω |
| Dimensions w × h × d | 269 × 132 × 33 | mm |
| Weight | 0.55 | kg |
| Connectors type | N female | |



Description

XA 2016 splitter is designed for two-way symmetric splitting of radio signal or combining of two signals into common output. Splitter is applicable to coaxial cable distribution systems of radio networks inside large buildings, tunnels, metro, railway stations, airport terminals etc.

It works in broad frequency range. Input and outputs are adjusted for impedance 50 ohm.

Electrical Specifications

| Parameter | Value | Units |
|-----------------|------------|--------|
| Frequency range | 700 ÷ 2100 | MHz |
| Splitting ratio | 1 : 2 | |
| Split loss | 3.5 ± 0.5 | dB |
| VSWR | < 1.5 | |
| Output power | 1.5 | W max |
| Isolation | 17 | dB min |
| Impedance | 50 | Ω |

Mechanical Specifications

| Parameter | Value | Units |
|----------------------|--------------|-------|
| Dimensions w × h × d | 50 × 38 × 20 | mm |
| Weight | 58 | g |
| Connectors type | SMA female | |

Description

XA 2001, XA 2002 and XA 2003 power symmetric splitters enable coupling of 2, 3 or 4 antennas.

Features

- creating of special antenna radiation pattern
- excellent matching
- high operating power
- good corrosion resistance and weather resistance
- easy mounting

Assembly:

Splitter can be mounted on vertical or horizontal support of diameter from 40 to 110 mm.

Mounting accessories:

Stainless steel strapping 11 mm × L *) cm; ordering number 177-944 including clip.

*) Depends on diameter of support.



XA 2001



XA 2002



XA 2003

Technical Specifications

| Parameter | Value | | | Units |
|----------------------|---|-------------------|-------------------|-------|
| | XA 2001 | XA 2002 | XA 2003 | |
| Type | XA 2001 | XA 2002 | XA 2003 | |
| Frequency band | 380 ÷ 400 | | | MHz |
| Splitting ratio | 1 : 2 | 1 : 3 | 1 : 4 | |
| Maximum input power | 1000 | 1000 | 500 | W |
| Split loss | 3.0 (+0.3 ÷ -0.1) | 4.8 (+0.3 ÷ -0.1) | 6.0 (+0.3 ÷ -0.1) | dB |
| VSWR | < 1.1 | | | |
| Impedance | 50 | | | Ω |
| Material | chromated aluminium alloy, silvered brass | | | |
| Dimensions w × h × d | 255 × 85 × 40 | 255 × 85 × 65 | 270 × 85 × 65 | mm |
| Weight | 0.9 | 1 | 1.2 | kg |
| Connectors type | 7/16 female | | | |



Description

XA 2300 splitter is designed for branching or two-way asymmetric splitting of radio signal. It works in broad frequency range. IN and OUT ports can be interchanged.

Technical Specifications

| Parameter | | Value | Units |
|----------------------|------------------------|--------------------|--------|
| Frequency range | | 10 ÷ 1200 | MHz |
| Insertion loss | | 0.4 | dB max |
| Coupling | +15 ÷ +35 °C | 40,0 (+1.0 ÷ -1.8) | dB |
| | -25 ÷ +55 °C | 40,0 (+1.4 ÷ -2.2) | dB |
| VSWR | | < 1.4 | |
| Maximum input power | continual operation CW | 80 | W |
| Impedance | | 50 | Ω |
| Dimensions w × h × d | | 92 × 80 × 30 | mm |
| Weight | | 0.185 | kg |
| Connectors type | | N female | |



Description

XA 2307 splitter is designed for two-way asymmetric splitting of radio signal. It works in broad frequency range. IN and OUT ports can be interchanged.

Technical Specifications

| Parameter | Value | Units |
|----------------------|------------------------|-------|
| Frequency range | 0 ÷ 1860 | MHz |
| Insertion loss | 1.5 ± 0.4 | dB |
| Coupling | 11.2 ± 0.8 | dB |
| VSWR | < 1.8 | |
| Maximum input power | continual operation CW | 20 |
| | pulse operation PW | 50 |
| Impedance | 50 | Ω |
| Dimensions w × h × d | 92 × 80 × 30 | mm |
| Weight | 0.2 | kg |
| Connectors type | N female | |



Description

XA 2309 splitter is designed for branching or two-way asymmetric splitting of radio signal. It works in broad frequency range. IN and OUT ports can be interchanged.

Technical Specifications

| Parameter | | Value | Units |
|----------------------|------------------------|--------------------|-------|
| Frequency range | | 0 ÷ 1860 | MHz |
| Insertion loss | | max. 0.35 | dB |
| Coupling | +15 ÷ +35 °C | 40,0 (+1.0 ÷ -1.8) | dB |
| | -25 ÷ +55 °C | 40,0 (+1.4 ÷ -2.2) | dB |
| VSWR | | < 1.4 | |
| Maximum input power | continual operation CW | 20 | W |
| Impedance | | 50 | Ω |
| Dimensions w × h × d | | 92 × 80 × 30 | mm |
| Weight | | 0.185 | kg |
| Connectors type | IN, OUT | N female, N male | |
| | CPL | BNC female | |



Description

Two- or three-way symmetric splitter or combiner.

Splitter is applicable to coaxial cable distribution systems of radio networks inside large buildings, tunnels, metro, railway stations, airport terminals etc.

It works in broad frequency range. Input and outputs are adjusted for impedance of 50 Ω .

Technical Specifications

| Parameter | Value | | Units |
|----------------------|--------------------------------------|----------------|----------|
| Type | XF 1500 | XF 1501 | |
| Frequency range | 380 ÷ 960 | | MHz |
| Splitting ratio | 1 : 3 | 1 : 2 | |
| Split loss | 4.9 | 3.1 | dB |
| VSWR | < 1.2 | | |
| Maximum input power | 50 | | W |
| Impedance | 50 | | Ω |
| Material | aluminium alloy, microwave substrate | | |
| Dimensions w × h × d | 118 × 231 × 45 | 118 × 219 × 45 | mm |
| Weight | 0.80 | 0.78 | kg |
| Connectors type | N female | | |



Description

XA 2301 and XA 2302 power broadband directional couplers are designed for branching or asymmetric splitting of transmitted power.

The devices are applicable to coaxial cable distribution systems of radio networks inside large buildings, tunnels, metro, railway stations, airport terminals etc.

Technical Specifications

| Parameter | Value | | Units |
|----------------------|------------------------|---------------|-------|
| | XA 2301 | XA 2302 | |
| Type | XA 2301 | XA 2302 | |
| Frequency range | 380 ÷ 470 870 ÷ 960 | | MHz |
| Maximum power | 400 | | W |
| Insertion loss | 1 | 0.4 | dB |
| Coupling | 7 ± 1 | 10 ± 1 | dB |
| VSWR | typ. < 1.4 | typ. < 1.3 | |
| Impedance | 50 | | Ω |
| Dimensions w × h × d | 190 × 57 × 40 | 183 × 57 × 40 | mm |
| Weight | 0.3 | 0.26 | kg |
| Connectors type | N female | | |



Electrical Specifications

| Parameter | Value | | Units |
|---|-----------|-----------|--------|
| Passband frequencies | 140 ÷ 170 | 380 ÷ 425 | MHz |
| Insertion loss in main/coupled line (including coupling loss) | 3.5 | 4.0 | dB max |
| Unbalance | ± 0.3 | ± 0.5 | dB max |
| Isolation | 20 | 18 | dB max |
| Return loss, all ports | 18 | | dB min |
| | 20 | | dB typ |
| Power handling | 50 | | W CW |
| 3 rd PIM at 2×43 dBm | -110 | | dBc |
| Impedance | 50 | | Ω |

Mechanical Specifications

| Parameter | Value | Units |
|-----------------|----------------------|-------|
| Outside finish | black matt, RAL 9005 | |
| Dimensions | 98 × 63 × 26 | mm |
| Connectors type | 3× N female | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Ingress protection | IP 65 | |
| Operating temperature | -30 ÷ +75 | °C |



General Specifications

| | |
|-----------------|-----------|
| Type | XA 2316 |
| Colour | silver |
| Material | aluminium |
| Connectors type | N female |

Electrical Specifications

| Parameter | Value | Units |
|--------------------------|-----------|----------|
| Operating frequency band | 130 ÷ 174 | MHz |
| Average CW power | 50 | W |
| Impedance | 50 | Ω |
| Coupling | 3.3 | dB max |
| Isolation | 20 | dB min |
| Return loss | 21 | dB min |
| VSWR | < 1.2 | |
| Phase balance | 90 ± 3.5 | ° |
| Operating temperature | -20 ÷ +70 | °C |

Mechanical Specifications

| Parameter | Value | Units |
|-----------|-------|-------|
| Weight | 156 | g |
| Width | 62 | mm |
| Height | 77 | mm |
| Depth | 21 | mm |



General Specifications

| | |
|-----------------|-----------|
| Type | XA 2317 |
| Colour | silver |
| Material | aluminium |
| Connectors type | N female |

Electrical Specifications

| Parameter | Value | Units |
|--------------------------|------------|--------|
| Operating frequency band | 800 ÷ 1000 | MHz |
| Average CW power | 50 | W |
| Impedance | 50 | Ω |
| Coupling | 3.3 | dB max |
| Isolation | 26 | dB min |
| Return loss | 23 | dB min |
| VSWR | < 1.15 | |
| Phase balance | 90 ± 2.0 | ° |
| Operating temperature | -20 ÷ +70 | °C |

Mechanical Specifications

| Parameter | Value | Units |
|-----------|-------|-------|
| Weight | 156 | g |
| Width | 62 | mm |
| Height | 77 | mm |
| Depth | 21 | mm |



General Specifications

| | |
|-----------------|-----------|
| Type | XA 2322 |
| Colour | silver |
| Material | aluminium |
| Connectors type | N female |

Electrical Specifications

| Parameter | Value | Units |
|--------------------------|-----------|--------|
| Operating frequency band | 350 ÷ 520 | MHz |
| Average CW power | 50 | W |
| Impedance | 50 | Ω |
| Coupling | 3.2 | dB max |
| Isolation | 27 | dB min |
| Return loss | 25 | dB min |
| VSWR | < 1.12 | |
| Phase balance | 90 ± 3.0 | ° |
| Operating temperature | -20 ÷ +70 | °C |

Mechanical Specifications

| Parameter | Value | Units |
|-----------|-------|-------|
| Weight | 156 | g |
| Width | 62 | mm |
| Height | 77 | mm |
| Depth | 21 | mm |



General Specifications

| | |
|-----------------|-----------|
| Type | XA 2325 |
| Colour | silver |
| Material | aluminium |
| Connectors type | N female |

Electrical Specifications

| Parameter | Value | Units |
|--------------------------|------------|--------|
| Operating frequency band | 150 ÷ 1000 | MHz |
| Average CW power | 50 | W |
| Impedance | 50 | Ω |
| Coupling | 4.5 | dB max |
| Isolation | 20 | dB min |
| Return loss | 21 | dB min |
| VSWR | < 1.2 | |
| Phase balance | 90 ± 3 | ° |
| Operating temperature | -20 ÷ +70 | °C |

Mechanical Specifications

| Parameter | Value | Units |
|-----------|-------|-------|
| Weight | 418 | g |
| Width | 130 | mm |
| Height | 110 | mm |
| Depth | 21 | mm |



Description

XA 2327 and XA 2327A indoor hybrid couplers are designed to combine 2 input to 2 output ports in the 146 – 470 MHz, resp. 138 – 512 MHz range with low PIM performance.

Electrical Specifications

| Type | | XA 2327 | XA 2327A | Units |
|--------------------------|--------------------|-----------|-----------|--------|
| Input ports (I/P) | | 2 | | # |
| Output ports (O/P) | | 2 | | # |
| Operating frequency band | | 146 – 470 | 138 – 512 | MHz |
| Insertion loss | any I/P to any O/P | 3.1 ± 0.4 | 3.1 ± 0.5 | dB max |
| VSWR | at any port | 1.2 : 1 | | max |
| Isolation | between I/Ps | 25 | | dB min |
| Power handling, c.w. | per input port | 200 | | W max |
| Impedance | | 50 | | Ω |
| Connectors | | N female | | |

Mechanical Specifications

| Parameter | Value |
|---|------------------|
| Dimensions w × h × d (excl. connectors & tuning screws) | 300 × 34 × 40 mm |

Environmental Specifications

| Parameter | Value |
|-----------------------|---------------|
| Ingress protection | IP 40 |
| Operating temperature | -20 to +65 °C |



Description

XA 2323 outdoor 3x3 hybrid matrix is designed to combine 3 input to 3 output ports in the 698-2700 MHz range.

Electrical Specifications

| Parameter | | Value | Units |
|--------------------------|-----------------------------------|------------|--------|
| Input ports (I/P) | | 3 | # |
| Output ports (O/P) | | 3 | # |
| Operating frequency band | | 698 ÷ 2700 | MHz |
| Insertion loss | any I/P to any O/P | 5.6 | dB max |
| VSWR | at any port | 1.25 : 1 | max |
| Isolation | | 26 | dB min |
| Power handling, c.w. | | 300 | W max |
| Passive intermodulation | 3 rd order at 2x43 dBm | ≤ -160 | dBc |
| Impedance | | 50 | Ω |

Mechanical Specifications

| Parameter | | Value | Units |
|-------------------------------|--|------------------|--------|
| Colour | | grey (powdering) | |
| Dimensions (excl. connectors) | | 302 × 138 × 39 | mm max |
| Connectors type | | DIN 7/16 female | |

Environmental Specifications

| Parameter | | Value | Units |
|-----------------------|--|-----------|-------|
| Ingress protection | | IP 40 | |
| Operating temperature | | -45 ÷ +75 | °C |



Description

XA 2324 outdoor 4x4 hybrid matrix is designed to combine 4 input to 4 output ports in the 698-2700 MHz range.

Electrical Specifications

| Parameter | Value | Units |
|--------------------------|-----------------------------------|----------|
| Input ports (I/P) | 4 | # |
| Output ports (O/P) | 4 | # |
| Operating frequency band | 698 ÷ 2700 | MHz |
| Insertion loss | any I/P to any O/P | 6.9 |
| | | dB max |
| VSWR | at any port | 1.25 : 1 |
| | | max |
| Isolation | | 26 |
| | | dB min |
| Power handling, c.w. | | 300 |
| | | W max |
| Passive intermodulation | 3 rd order at 2x43 dBm | ≤ -160 |
| | | dBc |
| Impedance | | 50 |
| | | Ω |

Mechanical Specifications

| | | |
|-------------------------------|------------------|----|
| Colour | grey (powdering) | |
| Dimensions (excl. connectors) | 220 × 104 × 61.5 | mm |
| Connectors type | DIN 7/16 female | |

Environmental Specifications

| | | |
|-----------------------|-----------|----|
| Ingress protection | IP 67 | |
| Operating temperature | -45 ÷ +75 | °C |

Description

DH 80 / 4R duplexer is symmetric 4-cavity duplexer.

Heavy-duty mechanical construction allows use in both base radios and mobile radios.



Technical Specification

| Parameter | Value | | | | Units |
|----------------------|-------------------------|-----|------|-----|-------|
| Frequency range | 65 ÷ 78 | | | | MHz |
| Duplex spacing | 4 ÷ 13 | | | | MHz |
| Bandwidth | 0.25 | 0.5 | 0.75 | 1.0 | MHz |
| Insertion loss max. | 1.0 | 1.0 | 1.0 | 1.0 | dB |
| Isolation min. | 60 | 55 | 45 | 40 | dB |
| Maximum input power | 25 (50) | | | | W |
| Impedance | 50 | | | | Ω |
| VSWR | < 1.3 | | | | |
| Weight | 1.3 ÷ 1.4 | | | | kg |
| Dimensions w × h × d | 202 × 145 × 38 | | | | mm |
| Connectors type | N, BNC, TNC – female *) | | | | |

*) According to customer's requirement.



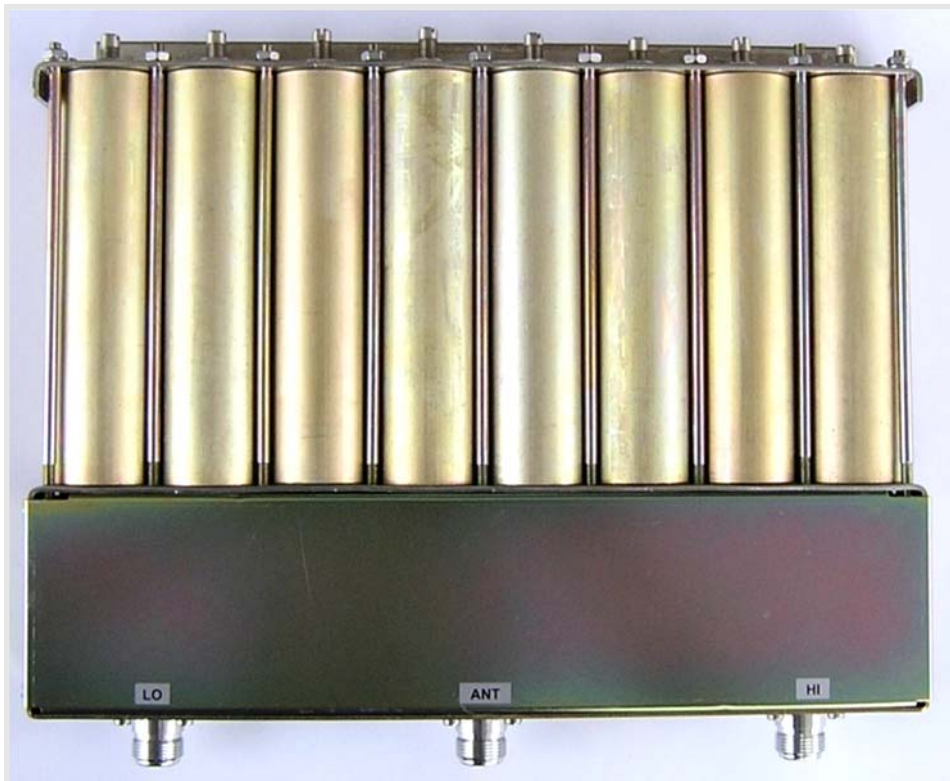
Description

DH 80 / 6R duplexer is symmetric 6-cavity duplexer. Heavy-duty mechanical construction allows use in both base radios and mobile radios.

Technical Specifications

| Parameter | Value | | | | | | | Units |
|----------------------|-------------------------|-----|------|-----|---------|-----|-----|-------|
| | 60 ÷ 90 | | | | 60 ÷ 85 | | | |
| Frequency range | 60 ÷ 90 | | | | 60 ÷ 85 | | | MHz |
| Duplex spacing | 3 | | | | 4 ÷ 6.5 | | | MHz |
| Bandwidth | 0.25 | 0.5 | 0.75 | 1 | 0.5 | 1 | 1.5 | MHz |
| Insertion loss max. | 1,5 | 1.5 | 1.7 | 1.9 | 1.3 | 1.5 | 1.7 | dB |
| Isolation min. | 75 | 70 | 65 | 60 | 70 | 65 | 60 | dB |
| Maximum input power | 25 (50) | | | | | | | W |
| Impedance | 50 | | | | | | | Ω |
| VSWR | < 1.35 | | | | < 1.3 | | | |
| Weight | 1.7 ÷ 1.8 | | | | | | | kg |
| Dimensions w × h × d | 210 × 203 × 38 | | | | | | | mm |
| Connectors type | N, BNC, TNC – female *) | | | | | | | |

*) According to customer's requirement.



Description

DH 80 / 8R duplexer is symmetric 8-cavity duplexer. Heavy-duty mechanical construction allows use in both base radios and mobile radios.

Technical Specifications

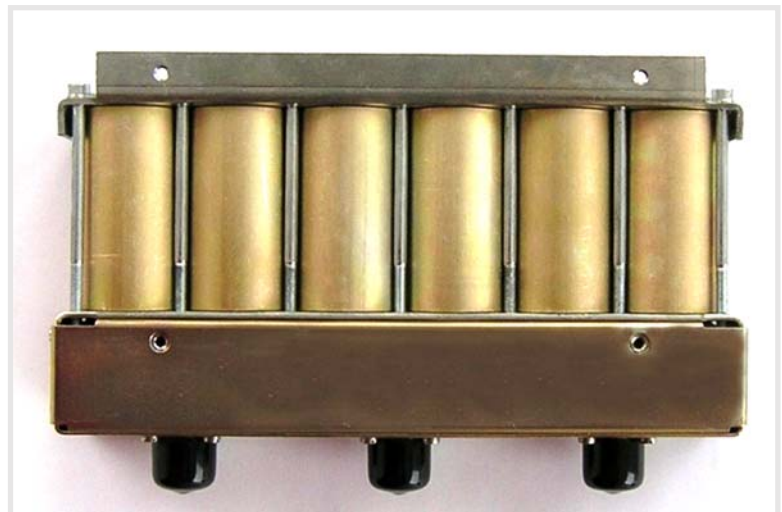
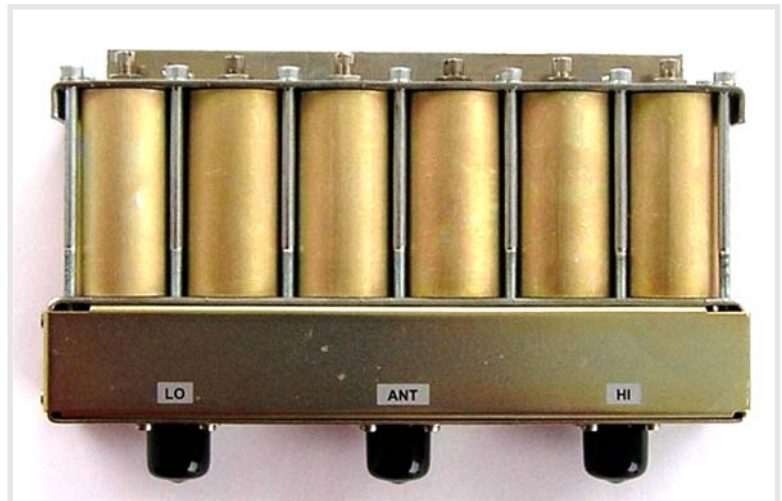
| Parameter | Value | | | | | | | Units |
|----------------------|--------------------------------------|-----|------|-----|---------|-----|-----|-------|
| Frequency range | 70 ÷ 90 | | | | 70 ÷ 85 | | | MHz |
| Duplex spacing | 3 | | | | 4 ÷ 6.5 | | | MHz |
| Bandwidth | 0.25 | 0.5 | 0.75 | 1 | 0.5 | 1 | 1.5 | MHz |
| Insertion loss max. | 1.5 | 1.5 | 1.7 | 1.9 | 1.3 | 1.5 | 1.7 | dB |
| Isolation min. | 80 | 75 | 70 | 65 | 85 | 75 | 70 | dB |
| Maximum input power | 45 (-30 ÷ +50 °C), 35 (-30 ÷ +70 °C) | | | | | | | W |
| Impedance | 50 | | | | | | | Ω |
| VSWR | < 1.35 | | | | < 1.3 | | | |
| Weight | 1.7 ÷ 1.8 | | | | | | | kg |
| Dimensions w × h × d | 275 × 225 × 38 | | | | | | | mm |
| Connectors type | N, BNC, TNC, (SMA) – female *) | | | | | | | |

*) According to customer's requirement.

Description

DH 160 / 6R duplexer is symmetric 6-cavity duplexer.

Heavy-duty mechanical construction allows use in both base radios and mobile radios.



Technical Specifications

| Parameter | Value | | | Units |
|----------------------|-------------------------|-----|-----|-------|
| Frequency range | 140 ÷ 175 | | | MHz |
| Duplex spacing | 4.5 ÷ 6.5 | | | MHz |
| Bandwidth | 0.5 | 1 | 1.5 | MHz |
| Insertion loss max. | 1.3 | 1.5 | 1.7 | dB |
| Isolation min. | 70 | 65 | 60 | dB |
| Maximum input power | 25 (50) | | | W |
| Impedance | 50 | | | Ω |
| VSWR | < 1.3 | | | |
| Weight | 1.1 ÷ 1.2 | | | kg |
| Dimensions w × h × d | 210 × 130 × 38 | | | mm |
| Connectors type | N, BNC, TNC – female *) | | | |

*) According to customer's requirement.



Description

DH 160 / 8R duplexer is symmetric 8-cavity duplexer. Heavy-duty mechanical construction allows use in both base radios and mobile radios.

Technical Specifications

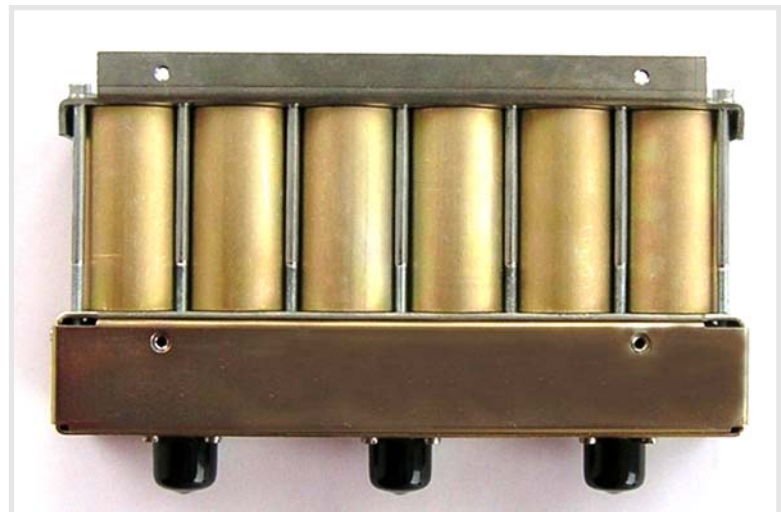
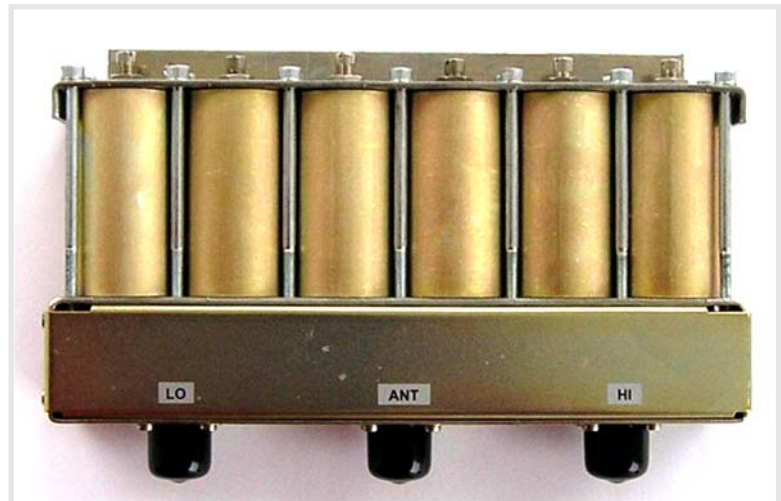
| Parameter | Value | | | Units |
|----------------------|-------------------------|-----|-----|----------|
| Frequency range | 140 ÷ 175 | | | MHz |
| Duplex spacing | 4.5 ÷ 6.5 | | | MHz |
| Bandwidth | 1 | 1.5 | 2 | MHz |
| Insertion loss max. | 1.4 | 1.5 | 1.7 | dB |
| Isolation min. | 75 | 70 | 65 | dB |
| Maximum input power | 25 (50) | | | W |
| Impedance | 50 | | | Ω |
| VSWR | < 1.3 | | | |
| Weight | 1.6 ÷ 1.8 | | | kg |
| Dimensions w × h × d | 275 × 130 × 38 | | | mm |
| Connectors type | N, BNC, TNC – female *) | | | |

*) According to customer's requirement.

Description

DH 300 / 6R duplexer is symmetric 6-cavity duplexer.

Heavy-duty mechanical construction allows use in both base radios and mobile radios.



Technical Specifications

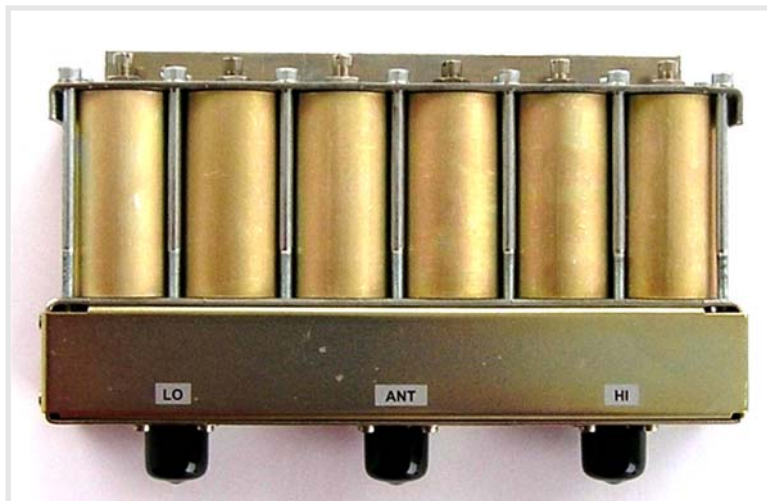
| Parameter | Value | | | Units |
|----------------------|-------------------------|---|-----|-------|
| Frequency range | 300 ÷ 360 | | | MHz |
| Duplex spacing | 36 | | | MHz |
| Bandwidth | 1 | 2 | 5 | MHz |
| Insertion loss max. | 0.8 | | 0.9 | dB |
| Isolation min. | 90 | | 75 | dB |
| Maximum input power | 25 (50) | | | W |
| Impedance | 50 | | | Ω |
| VSWR | < 1.5 | | | |
| Weight | 1.1 ÷ 1.2 | | | kg |
| Dimensions w × h × d | 210 × 130 × 38 | | | mm |
| Connectors type | N, BNC, TNC – female *) | | | |

*) According to customer's requirement.

Description

DH 450 / 6R duplexer is symmetric 6-cavity duplexer.

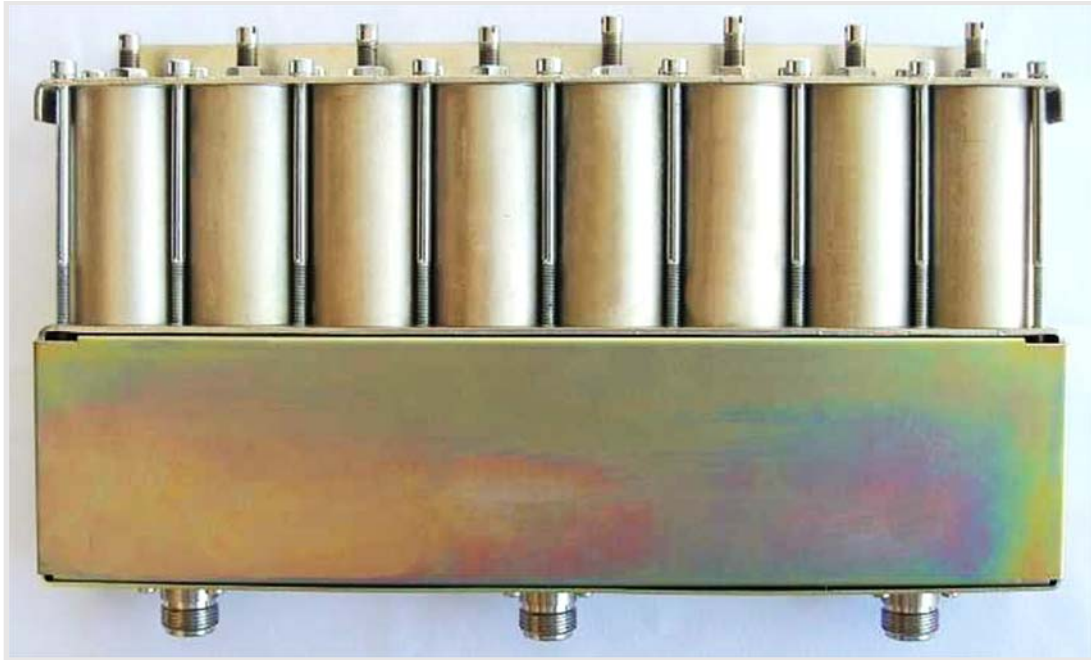
Heavy-duty mechanical construction allows use in both base radios and mobile radios.



Technical Specifications

| Parameter | Value | | | | Units |
|----------------------|-------------------------|----------|-----|-----|-------|
| Frequency range | 400 ÷ 470 | | | | MHz |
| Duplex spacing | 6.5 ÷ 8.5 | 8.5 ÷ 15 | | | MHz |
| Bandwidth | 0.5 | 0.5 | 1 | 2 | MHz |
| Insertion loss max. | 1.9 | 1.3 | 1.5 | 1.9 | dB |
| Isolation min. | 65 | 70 | 65 | 60 | dB |
| Maximum input power | 25 (50) | | | | W |
| Impedance | 50 | | | | Ω |
| VSWR | < 1.3 | | | | |
| Weight | 1.1 ÷ 1.2 | | | | kg |
| Dimensions w × h × d | 210 × 130 × 38 | | | | mm |
| Connectors type | N, BNC, TNC – female *) | | | | |

*) According to customer's requirement.



Description

DH 450 / 8R duplexer is symmetric 8-cavity duplexer. Heavy-duty mechanical construction allows use in both base radios and mobile radios.

Technical Specifications

| Parameter | Value | | | | Units |
|----------------------|--------------------------------------|----------|-----|-----|-------|
| Frequency range | 400 ÷ 470 | | | | MHz |
| Duplex spacing | 6.5 ÷ 8.5 | 8.5 ÷ 15 | | | MHz |
| Bandwidth | 1 | 2 | 3 | 4 | MHz |
| Insertion loss max. | 1.9 | 1.3 | 1.5 | 1.9 | dB |
| Isolation min. | 75 | 75 | 65 | 60 | dB |
| Maximum input power | 45 (-30 ÷ +50 °C), 30 (-30 ÷ +70 °C) | | | | W |
| Impedance | 50 | | | | Ω |
| VSWR | < 1.3 | | | | |
| Weight | 1.6 ÷ 1.7 | | | | kg |
| Dimensions w × h × d | 275 × 162 × 38 | | | | mm |
| Connectors type | N, BNC, TNC, (SMA) – female *) | | | | |

*) According to customer's requirement.

Description

XF 4014 indoor duplexer is designed to combine one DL and one UL band of HLS service into the common port. The duplexer features with low insertion loss and high isolation.



Electrical Specifications

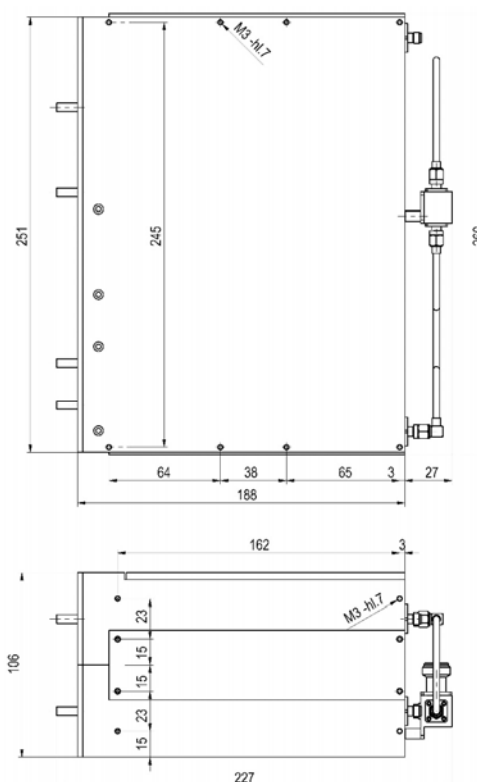
| Parameter | | Value | | Units |
|-----------------------------|-----------------|-------------------------|--|---------|
| Operating frequency band | Port 1, DL | 146 ÷ 148 | | MHz |
| | Port 2, UL | 151 ÷ 153.8 | | MHz |
| | COM | 146 ÷ 148 & 151 ÷ 153.8 | | MHz |
| Insertion loss | Port 1 ↔ COM | 2.2 | | dB max |
| | Port 2 ↔ COM | 2.2 | | dB max |
| Return loss | | 21 | | dB min |
| Rejections Port 1 ↔ COM | 158.06, 164.77 | 65 | | dB min |
| | 171.525 | 35 | | dB min |
| | 173.025 | 61 | | dB min |
| Rejections Port 2 ↔ COM | 158.06 | 59 | | dB min |
| | <164.7; 173> | 65 | | dB min |
| Isolation | Port 1 ↔ Port 2 | 65 | | dB min |
| Power handling, c.w. | per port | 10 | | W max |
| PIM (5 th order) | @ 2× 30 dBm | -150 | | dBc max |
| Impedance | | 50 | | Ω |

Mechanical Specifications

| Parameter | Value | |
|-----------------|--------------------|------------|
| Weight | 5860 g | |
| Dimensions | 260 × 227 × 106 mm | |
| Connectors type | Port 1, 2 | SMA female |
| | COM | N female |

Environmental Specifications

| Parameter | Value | |
|--------------------|----------------------|--------------|
| Ingress protection | IP 40 | |
| Temperature range | Operation | +5 ÷ +55 °C |
| | Transportation | -40 ÷ +85 °C |
| Humidity | 95 %, non-condensing | |





Description

XF 4039 duplexer consists of coaxial cavity resonators. Duplexer construction is designed so that separate filters can be retuned without mechanical interventions within frequency band 380 to 460 MHz. It is also possible to integrate power monitor to duplexer.

Technical Specifications

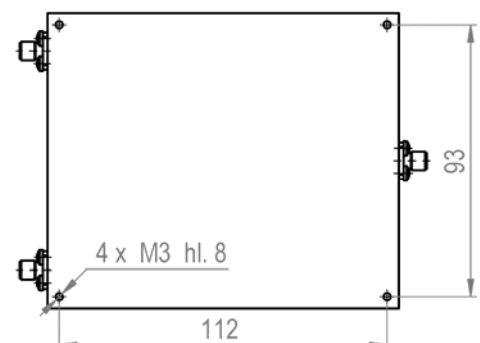
| Parameter | Value | Units |
|----------------------|--|----------|
| Frequency range | 380 ÷ 460 | MHz |
| Bandwidth | 5 (380 ÷ 385, 390 ÷ 395, 415 ÷ 420, ...) | MHz |
| Duplex spacing | 10 | MHz |
| Insertion loss | 3.0 | dB max |
| | 2.4 | dB typ |
| Passband ripple | 1.5 | dB max |
| | 1.0 | dB typ |
| Stopband attenuation | 55 | dB min |
| | 60 | dB typ |
| Isolation | 73 | dB min |
| Input power | 50 | W |
| Impedance | 50 | Ω |
| VSWR | < 1.25 | |

Mechanical Specifications

| | | |
|-----------------|--|----|
| Weight | 1168 | g |
| Dimensions | 120 × 101 × 60 | mm |
| Connectors type | SMA female / N female (according to customer's requirement) | |

Environmental Specifications

| | | |
|-----------------------|-----------|----|
| Ingress protection | IP 40 | |
| Operating temperature | -30 ÷ +75 | °C |





Description

XF 4045A duplexer is a 6-resonators duplexer designed primarily for UIC railway communication. The duplexer is temperature compensated and operates at broad temperature range.

Technical Specifications

| Parameter | Value | Units |
|------------------------|---------------|--------------------|
| Frequency range (LOW) | 456.8 ÷ 458.8 | MHz |
| Frequency range (HIGH) | 466.8 ÷ 468.8 | MHz |
| Insertion loss | 1.5 | dB |
| Stopband attenuation | 70 | dB |
| VSWR | < 1.35 | |
| Maximum input power | 22 | W |
| Impedance | 50 | Ω |
| Operating temperature | -25 ÷ +75 | $^{\circ}\text{C}$ |
| Storage temperature | -40 ÷ +75 | $^{\circ}\text{C}$ |
| Dimensions w × h × d | 154 × 68 × 27 | mm |
| Weight | 0.4 | kg |
| Connectors type | SMA female | |

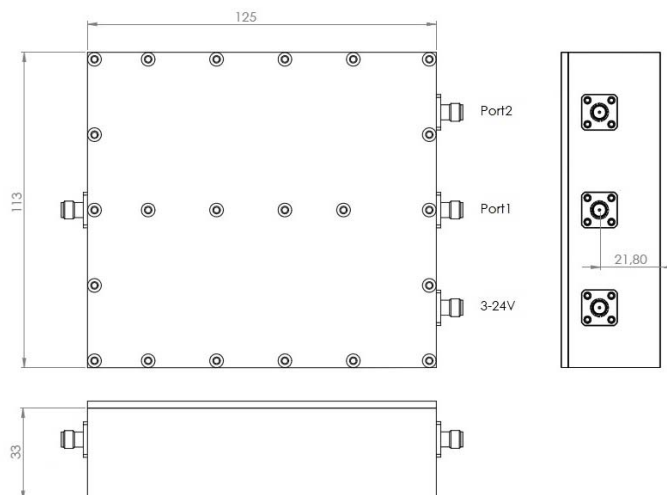
Test Specifications

| | |
|--|-----------|
| Produced according the Standard | EN 50 155 |
| Shock and vibration tests according the Standard | EN 61 373 |



Features

- Excellent temperature stability
- Optionally cross switching or RX/TX ports, 3.3÷24 V operate voltage
- Guaranteed less than -1.5 dB insertion loss with switches in wide temperature range
- Guaranteed more than 70 dB stopband isolation without switches
- Guaranteed more than 65 dB stopband isolation with switches



Electrical Specifications

| Characteristic | Conditions | Specified | | | Units |
|----------------------------|--|-----------|------|------|-------|
| | | Min. | Typ. | Max. | |
| Frequency range Rx | Port F1/F2 or Port F2/F1 | 457 | | 459 | MHz |
| Frequency range Tx | Port F2/F1 or Port F1/F2 | 467 | | 469 | MHz |
| Insertion loss COM – F1/F2 | | | 1.3 | 1.5 | dB |
| Insertion loss COM – F2/F1 | | | 1.3 | 1.5 | dB |
| Passband ripple in Rx band | | | 0.5 | 0.7 | dB |
| Passband ripple in Tx band | | | 0.5 | 0.7 | dB |
| Stopband isolation | | 65 | 70 | | dB |
| VSWR | All ports | 1.30 | 1.23 | | |
| Switching voltage | From PortF1/F2 / Port F2/F1 to Port F2/F1 / Port F1/F2 | | 3.3 | 24 | V |
| Current consumption | | | 30 | 50 | mA |

Mechanical Specifications

| | | | |
|-----------------|--------|----------------|----|
| Dimensions | | 125 x 113 x 33 | mm |
| Connectors type | TX, RX | SMA female | |
| | COM | SMA female | |

Environmental Specifications

| | | |
|-----------------------|-----------|----|
| Ingress protection | IP 40 | |
| Operating temperature | -40 ÷ +80 | °C |



Description

XF4051 duplexer is designed to combine TETRA TX and RX bands into the common port.

Electrical Specifications

| Parameter | | Value | | Units | |
|--------------------------------|---------------------------|-----------------------|-----------|--------|--------|
| Operating frequency band | Ports | TX | RX | | |
| | Bands | 390 ÷ 395 | 380 ÷ 385 | MHz | |
| | COM | 380 ÷ 385 & 390 ÷ 395 | | MHz | |
| Insertion loss | TX → COM | 1.5 | | dB max | |
| | COM → RX | | 1.5 | dB max | |
| Insertion loss variation (p-p) | | ± 0.5 | | dB max | |
| Return loss | At any port | 15 | | dB min | |
| Isolation | TX ↔ RX | 60 | 60 | dB min | |
| Rejection in | DC÷330 MHz & 445÷1000 MHz | TX ↔ COM | | 80 | dB min |
| | DC÷320 MHz & 430÷1000 MHz | COM ↔ RX | | | |
| Power handling, c.w. | per TX port | 20 | 1 | W max | |
| Impedance | | 50 | | Ω | |

Mechanical Specifications

| | | | |
|-----------------|--------|----------------|----|
| Dimensions | | 185 × 175 × 75 | mm |
| Connectors type | TX, RX | N female | |
| | COM | N female | |

Environmental Specifications

| | | | |
|--------------------|----------------|----------------------|----|
| Ingress protection | | IP 40 | |
| Temperature range | Operation | -20 ÷ +70 | °C |
| | Transportation | -40 ÷ +85 | °C |
| Humidity | | 95 %, non-condensing | |



Description

XF 4053 indoor duplexer is designed to combine TETRAPOL TX and RX bands to the common port.

Electrical Specifications

| Parameter | | Value | | Units |
|------------------------------------|-------------|-----------------------|-----------|---------|
| Operating frequency band | Ports | TX | RX | |
| | Bands | 390 - 395 | 380 - 385 | MHz |
| | COM | 380 - 385 & 390 - 395 | | MHz |
| Insertion loss | TX → COM | 1.2 | | dB max |
| | COM → RX | | 1.2 | dB max |
| Return loss | at any port | 20 | | dB min |
| Isolation | TX ↔ RX | 45 | 45 | dB min |
| Power handling, c.w. ¹⁾ | per port | 100 | 10 | W max |
| Passive intermodulation | @ 8x 15W | -130 | | dBm max |
| Impedance | | 50 | | Ω |
| Connectors | TX, RX | N female | | |
| | COM | 7/16 female | | |

Notes:

1) Sea level, at ambient temperature, COM port 50 Ω loaded

Mechanical Specifications

| | | | |
|--------------------|-----------------|------------------------------------|--------|
| Dimensions | | 239 x 128 x 75 | mm max |
| Mounting positions | bottom side, 4x | M4 x 0.7, 8 mm deep / 228 x 117 mm | |
| Weight | | 3.5 | kg max |

Environmental Specifications

| | | | |
|--------------------|--|----------------------|--|
| Ingress protection | | IP 63 | |
| Temperature range | | -10 to +60 °C | |
| Humidity | | 95 %, non-condensing | |



Electrical Specifications

| Parameter | Value | | Units |
|---------------------------------|-----------|-----------|---------|
| Passband frequencies | 140 ÷ 170 | 380 ÷ 425 | MHz |
| Insertion loss | 0.3 | 0.5 | dB max |
| | 0.15 | 0.3 | dB typ |
| Ripple p-p | 0.15 | 0.2 | dB max |
| Other band rejection | 40 | 40 | dB min |
| | 45 | 45 | dB typ |
| Power handling per port | 50 | | W CW |
| 3 rd PIM at 2×43 dBm | -120 | | dBc typ |
| Impedance | 50 | | Ω |

Mechanical Specifications

| Parameter | Value | Units |
|-----------------|----------------------|-------|
| Outside finish | black matt, RAL 9005 | |
| Dimensions | 120.5 × 118 × 26 | mm |
| Connectors type | 3× N female | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Ingress protection | IP 65 | |
| Operating temperature | -30 ÷ +75 | °C |



Description

XF 4217 indoor triplexer is designed to combine LTE800 & EGSM900, GSM1800 and UMTS2100 bands into the common port.

Electrical Specifications

| Parameter | | Value | | | Units |
|--------------------------|--------------------------------|---------------------------------------|-------------|-------------|---------|
| Operating frequency band | Ports | 1 | 2 | 3 | |
| | Bands | 790 – 960 | 1710 – 1885 | 1920 – 2170 | MHz |
| | COM | 790 – 960 & 1710 – 1885 & 1920 – 2170 | | | MHz |
| Insertion loss | any Port to COM | 0.5 | | | dB max |
| VSWR | any Port | 1.3 : 1 | | | max |
| Isolation | Port i to Port j, i=1,2,3, i≠j | 65 | | | dB min |
| Power handling | c.w. | 100 | | | W max |
| | peak | 1000 | | | W max |
| Passive intermodulation | at 2x 43 dBm | -150 ¹⁾ | | | dBc max |
| Impedance | | 50 | | | Ohm |

Note:

1) PIM of the 5th order is ≤ -160 dBc

Mechanical Specifications

| Parameter | Value | Units |
|-------------------------------|--|-------|
| Weight | 1.6 | kg |
| Dimensions (excl. connectors) | 192 × 162 × 48 | mm |
| Outside finish | black paint | |
| Connectors type | DIN 7/16 female | |
| Connector positions | Ports 1, 2 & 3 in the 192×48 mm face, COM in the opposite face | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Ingress protection | IP 40 | |
| Operating temperature | -25 ÷ +65 | °C |

Description

BF 108 combiner is designed to combine LTE800 & EGSM900, GSM1800, UMTS2100 and LTE2600 bands of three operators to three output ports. Equipped with 4.3-10 connectors, it features with low insertion loss, high isolation and low PIM interference.



Electrical Specifications

| Parameter | Value | | | | Units | |
|------------------------------|---|--------------------|--------------|--------------|--------------|--|
| Number of input ports (I/P) | 12 | | | | # | |
| Marking | Operator 1 | #1 698-960 | #1 1710-1880 | #1 1920-2170 | #1 2500-2690 | |
| | Operator 2 | #2 698-960 | #2 1710-1880 | #2 1920-2170 | #2 2500-2690 | |
| | Operator 3 | #3 698-960 | #3 1710-1880 | #3 1920-2170 | #3 2500-2690 | |
| Operating frequency bands | 698 – 960 | 1710 – 1880 | 1920 – 2170 | 2500 – 2690 | MHz | |
| Number of output ports (COM) | 3 | | | | # | |
| Marking | OUT #1 | OUT #2 | OUT #3 | | | |
| Operating frequency bands | 698 – 960 & 1710 – 1880 & 1920 – 2170 & 2500 – 2690 | | | | MHz | |
| Insertion loss | any I/P to any COM | 6.5 | | | dB max | |
| Return loss | at any port | 14 | | | dB min | |
| Isolation | between any two I/P in different bands | 65 | | | dB min | |
| | between any two I/P in the same band | 30 | | | dB min | |
| Power handling | per I/P | 100 ¹⁾ | | | W c.w. max | |
| | aggregate | 300 | | | W c.w. max | |
| Passive intermodulation | 3 rd order with 2x 43 dBm | -150 ²⁾ | | | dBc max | |
| Impedance | 50 | | | | Ohm | |

Notes:

- 1) Operating band 790-960 MHz is composed of 791-862 MHz and 880-960 MHz sub-bands. The corresponding ports can operate higher power, when aggregate operating power per operator does not exceed 300 Watts.
- 2) When a particular operator sub-band is narrower than half of TX to RX channel spacing than PIM products of the 3rd order can be avoided. In such a case PIM < -160 dBc at the respected operator input port.

Mechanical Specifications

| Parameter | Value |
|-----------------|---------------|
| Connectors type | 4.3-10 female |
| Dimensions | 19", 3 HU |
| Weight | 15.1 kg |

Environmental Specifications

| | |
|-----------------------|--------------|
| Operating temperature | -25 ÷ +65 °C |
| Ingress protection | IP 40 |



Technical Specifications

| Parameter | Value | Units |
|-----------------|-------------------------|---------|
| Frequency range | DC ÷ 3 | GHz |
| VSWR | < 1.30 | |
| Attenuation | 1 GHz: 30 ± 1 | dB |
| Maximum power | 20 | W |
| Impedance | 50 | Ω |
| Dimensions | Size with connectors | 96 mm |
| | Size without connectors | 51 mm |
| | Diameter | ∅ 50 mm |
| Weight | 250 | g |
| Connectors type | N male / N female | |

XA 3203

XA 3204

XA 3205



Description

High-frequency **passive attenuator** with frequency-dependent attenuation and low value of 3rd passive intermodulation for frequency band 800 to 2100 MHz. Attenuator is suitable for decrease in power in antenna feeder and for PIM optimization.

General Specifications

| Type | XA 3203 | XA 3204 | XA 3205 | |
|-----------------|---------|---------------------|---------|--|
| Colour | | black | | |
| Material | | aluminium | | |
| Connectors type | | N female / N female | | |

Technical Specifications

| Parameter | Value | | | Units | |
|---------------------|---|-----|-----|-------|----|
| Frequency range | 800 ÷ 2100 | | | MHz | |
| Attenuation | 800 MHz band | 2.9 | 5.9 | 8.9 | dB |
| | 900 MHz band | 3.1 | 6.3 | 9.4 | dB |
| | 2100 MHz band | 5.0 | 9.9 | 14.9 | dB |
| 3 rd PIM | -140 (2× +43 dBm), typ. -145 (2× +43 dBm) | | | dBc | |
| Maximum power | 10 | | | W | |
| Impedance | 50 | | | Ω | |
| VSWR | < 1.1 | | | | |
| Ingress protection | IP 20 | | | | |

Mechanical Specifications

| Parameter | Value | | | Units |
|----------------------|---------------|-----|-----|-------|
| Weight | 230 | 350 | 470 | g |
| Dimensions w × h × d | 114 × 64 × 26 | | | mm |

XL 3001
XL 3002
XL 3004
XL 3005
XL 3006


XL 3001



XL 3004



XL 3006

Technical Specifications

| Parameter | Value | | | | | Units |
|------------------------|--|----------|---------|----------|---------------|-------|
| Type | XL 3001 | XL 3002 | XL 3004 | XL 3005 | XL 3006 | |
| Frequency range | DC ÷ 4 | | | | DC ÷ 1 | GHz |
| VSWR | 1 GHz: < 1.05 2 GHz: < 1.10 3 GHz: < 1.30 4 GHz: < 1.40 | | | | 1 GHz: < 1.10 | |
| Maximum power | 20 | | 10 | | 2 | W |
| Impedance | 50 | | | | | Ω |
| Material | aluminium, stainless steel | | | | | |
| Size with connector | 70 | 62 | 65 | 57 | 39 | mm |
| Size without connector | 43 | 43 | 38 | 38 | – | mm |
| Diameter | ∅ 50 | ∅ 50 | ∅ 40 | ∅ 40 | ∅ 22 | mm |
| Weight | 230 | | 125 | | 35 | g |
| Connector type | N male | N female | N male | N female | N male | |



General Specifications

| | |
|----------------|----------------------------|
| Type | XL 3007 |
| Device type | termination load |
| Colour | black |
| Material | aluminium, stainless steel |
| Connector type | 7/16 female |

Technical Specifications

| Parameter | Value | Units |
|---------------------|-------------------|-------|
| Frequency band | 698 ÷ 2700 | MHz |
| 3 rd PIM | -160 (2× +43 dBm) | dBc |
| Maximum power | 10 | W |
| Impedance | 50 | Ω |
| VSWR | < 1.3 | |
| Ingress protection | IP 20 | |

Mechanical Specifications

| Parameter | Value | Units |
|-----------|-------|-------|
| Weight | 780 | g |
| Length | 122 | mm |
| Diameter | ∅ 60 | mm |



Technical Specifications

| Parameter | Value | Units |
|------------------------|---|-------------|
| Frequency band | 380 ÷ 400 | MHz |
| Impedance | 50 | Ω |
| Size "A" | $\lambda/4 (f_0)$ | |
| VSWR | bandwidth 6.3 % from center frequency f_0 | ≤ 1.05 |
| | bandwidth 12 % from center frequency f_0 | ≤ 1.10 |
| | bandwidth 18 % from center frequency f_0 | ≤ 1.15 |
| Maximum insertion loss | 0.15 | dB |
| Nominal current | 50 | kA |
| Connectors type | N female | |

f_0 – center frequency of band

Note:

Surge protection must be located as close to the device.

Surge protection must be grounded in accordance with applicable standards.

Description

The detector provides control of the forward and reflected power ratio. If VSWR exceeds 2.5:1, the alarm occurs. For proper operation, it is important to keep correct direction of the detector connection between the radio (RF IN connector) and the antenna (RF OUT connector).



Technical Specifications

| Parameter | Value | Units |
|--------------------------|----------------------------|---------------------|
| Operating frequency band | 119 – 136 | MHz |
| Insertion loss | 0.2 | dB max |
| Return loss | 21 | dB min |
| Power handling, c.w. | 43 | dBm max |
| Impedance | 50 | Ω |
| Power supply | 12 | V DC |
| Dimensions | 107 × 60 × 70 | mm |
| Connectors | RF IN / OUT | N female / N female |
| | power supply, alarm output | Binder 4 pin |

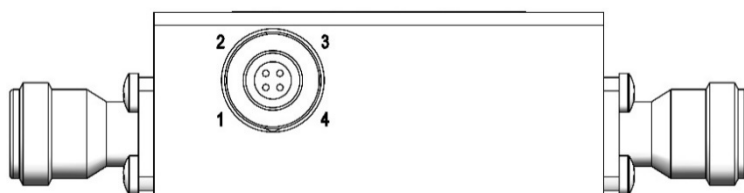
Typical Parameters valid for frequency band 119–136 MHz

| Parameter | Value | Units |
|-------------------------------|-----------------|--------|
| Functional range of RF levels | 0.5 – 30 *) | W |
| Insertion loss | 0.05 | dB |
| Return loss | 30 | dB |
| Parameters of alarm output | open collector | |
| | max. voltage | 32 V |
| | max. current | 10 mA |
| | VSWR OK | log. 1 |
| | VSWR FAIL | log. 0 |
| Fail VSWR alarm level | VSWR \geq 2.5 | |
| Power consumption at 12 V | 25 – 30 | mA |

Note:

*) Alarm output is not working for the input power below 0.5 W.
Input power over 30 W is not enabled for a given configuration.

Binder Connector Pin Description



- Pin 1 +12 V
- Pin 2 GND
- Pin 3 alarm output (open collector)
- Pin 4 unconnected



Electrical Specifications

| Parameter | Value | Units | |
|----------------------------------|------------|-------|----|
| Frequency range | 100 ÷ 1500 | MHz | |
| Gain (at 400 MHz) | 20 | dB | |
| Noise figure | < 1.8 | dB | |
| Impedance IN/OUT | 50 | Ω | |
| Output power at 1 dB compression | +17.5 | dBm | |
| Output IP3 | +20 | dBm | |
| Power supply | DC voltage | 12 | V |
| | DC current | 35 | mA |

Mechanical Specifications

| Parameter | Value | Units |
|---------------------------------|--------------|-------|
| Dimensions (without connectors) | 39 × 30 × 12 | mm |
| Connectors type | SMA female | |

Environmental Specifications

| Parameter | Value | Units |
|-----------------------|-----------|-------|
| Operating temperature | -20 ÷ +55 | °C |

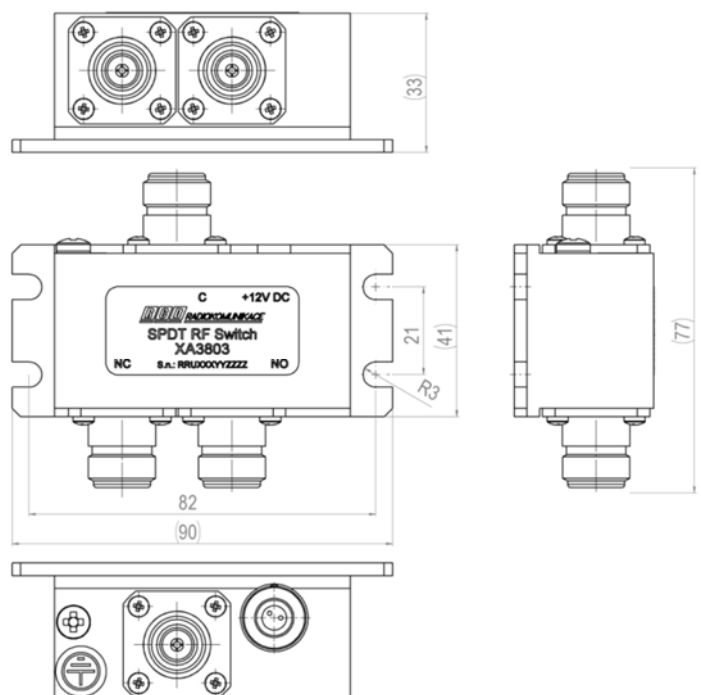


Electrical Specifications

| Parameter | Value | Units |
|---------------------------|------------------------|-----------|
| Operating frequency range | 10 ÷ 500 | MHz |
| Transmission loss | 0.2 | dB max |
| | 0.1 | dB typ |
| Maximum carried power | 30 | W max |
| Isolation | 75 | dB min |
| VSWR | < 1.1 | |
| Impedance | Input ON | 50 |
| | Input OFF | open |
| Control | 12 / 15 | V DC / mA |
| Standards | according DIN EN 50155 | |

Mechanical Specifications

| Parameter | Value |
|--------------------------|---|
| Dimensions | 90 × 77 × 33 mm |
| Connectors type | N female |
| Switch control connector | Binder female socket, ordering number 09-0404-00-02 (Pin1: GND, Pin2: +12V) |



Environmental Specifications

| Parameter | Value |
|-----------------------|--------------|
| Ingress protection | IP 54 |
| Operating temperature | -30 ÷ +75 °C |



RCD Radiokomunikace spol. s r. o.

U Pošty 26, 533 52 Staré Hradiště – Pardubice

Czech Republic

phone: +420 466 415 755

fax: +420 466 415 376

e-mail: sales@rcd.cz

<http://www.rcd.cz>