

Short-Haul and Medium-Haul  
Radio-Relay System

# SparkWave 15/18/23

Low and Medium Capacity  
Digital Radio-Relay System



The advantages of the system are quick connection set-up, high operational reliability and spectrum efficiency.

Typical lengths of radio paths are:

5-30 km for 15 GHz

4-25 km for 18 GHz

3-20 km for 23 GHz



# Iskra

Iskra Transmission

## Technical specification

	Digital radio link	SparkWave 15	SparkWave 18	SparkWave 23			
<b>Frequency plan</b>	Frequency bands Transmit/receive spacing Channel spacing Channel plan  Min. frequency setting step	14.5-15.35 GHz 728 MHz 3.5/7/14/28 MHz ERC/REC 12-07	17.7-19.7 GHz 1010 MHz 13.75/27.5 MHz ERC/REC 12-03, ITU-R Rec. F.595-3 0.25 MHz	22.0-23.6 GHz 1008 MHz 3.5/7/14/28 MHz ERC/REC 13-2			
<b>System specifications</b>	Transmission capacity  System value for BER = 10 <sup>-3</sup> - 2x2 Mbit/s - 8, 4x2 Mbit/s - 34, 16x2 Mbit/s  Frequency stability Modulation/Demodulation MTBF for 1+0 terminal		2x2, 8, 4x2, 34 and 16x2 Mbit/s (wayside traffic at 2 Mbit/s at 34 or 16x2 Mbit/s)				
<b>Electrical specification – transmitter</b>	RF output power RF output power setting	16 dBm	16 dBm 1-15 dB in 1 dB steps	20 dBm			
<b>Electrical specifications – receiver</b>	Receiver threshold level: BER - 2x2 Mbit/s - 8, 4x2 Mbit/s - 34, 16x2 Mbit/s	10 <sup>-3</sup> -91 dBm -88 dBm -82 dBm	10 <sup>-6</sup> -88 dBm -85 dBm -79 dBm	10 <sup>-3</sup> -93 dBm -89 dBm -84 dBm	10 <sup>-6</sup> -89 dBm -86 dBm -80 dBm	10 <sup>-3</sup> -91 dBm -88 dBm -82 dBm	10 <sup>-6</sup> -88 dBm -85 dBm -79 dBm
<b>Electrical specifications – baseband</b>	Code Parameters of the input/output interface		HDB3 according to ITU-T G.703				
<b>Electrical specifications – service channels</b>	Voice service channel Data service channel		2-wire, 600 Ω, 300-3400 Hz, A/D-D/A, 64 kbit/s PCM 19.2 kbit/s, V.28				
<b>Electrical specifications – auxiliary 2 Mbit/s</b>	Code Parameters of the input/output interface		HDB3 according to ITU-T G.703				
<b>Other specifications</b>	Type of the antenna waveguide flange Connector type for the connecting table Maximum attenuation of the connecting cable Power supply voltage Consumption (16x2 Mbit/s, 1+0) Weight - System subrack with 5 units/system module - RF module without antenna/RF subrack for 1+1 config. Dimensions in mm (height x width x depth) - System subrack (VSEP)/19" module - RF module without antenna/RF subrack	UBR 140	UBR 220 N 27 dB @ 1.5 GHz 40-60 VDC or 20-36 VDC (+20 % to -10 %) <18.0 W 4.0 kg/2.5 kg 5.0 kg	UBR 220	UBR 220	UBR 220	
<b>Climatic conditions</b>	Operation range (temperature/humidity): - System part - RF part Guaranteed temperature range for functional operation - System part - RF part Storage temperature		-5°C to +50°C/5 % to 95 % -50°C to +50°C/8 % to 100 % -25°C to +55°C -55°C to +65°C -55°C to +85°C				
<b>Electromagnetic compatibility</b>	ETS standard Radiation Immunity compliance to		ETS 300 385, class B EN 55022, 40/47 μV/m IEC 1000-4-6, 10 V/m, IEC 1000-4-2, IEC 1000-4-4				
<b>Certificates of Compliance</b>	CE 0862 SiQ		E8131700-CC C251-540/02	E813647P-CC			

The subject can be changed without notice.



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