



We change the shape of the world

Technical Datasheet	NovaTec S5+ 	NovaTec S6 	NovaTec S20 / S20+ 
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Mechanical Data	S5+	S6	S20 / S20+
Width x Depth x Height	19" chassis: 480 x 220 x 60 mm	19" chassis: 480 x 220 x 135 mm	19" chassis: 480 x 235 x 265 mm
	Desk top or wall-mounted chassis 365 x 220 x 60 mm		
Rack Units	1,5 RU	3 RU	6 RU
Weight (depending on expansion stage)	2 up to 4 kg	7 up to 12 kg	7 up to 18 kg
Fastening Method	Screwing in a 19" rack or desktop model S5+: wall-mounted chassis: wall holders		
Construction	Modular assembly with plug-in modules and sub-modules		
Electrical Data	S5+	S6	S20 / S20+
Power supply without redundance			
Power Supply	100 – 240 V~ 50 to 60 Hz	100 – 240 V~ 47 to 63 Hz	230 V~ (115 V~) ± 10% 47 to 400 Hz to 48 V ₌
Power Input	0,7 A~, 42 to 80 VA	3 A at 230 V~ 6 A at 115 V~	506 VA (2,2 A) at 230 V~ 483 VA (4,2 A) at 115 V~ max. 8 A at 48 V ₌
Power supply redundant			
Current supply per power supply	----	115-230 ~	115-230 V~
Power input	----	Nominal: 135 VA Max: 210 VA	Nominal: 380 VA Max: 427 VA
Characteristics	----	<ul style="list-style-type: none"> • Temperature controlled airing in front plate • Integrated active fuse separation between the power supplies • Frontal mains connection 	
Electric Supply	Rubber Connector (IEC 320)	Rubber Connector (IEC 320)	Rubber Connector (at 230 V~ and 115 V~)
Earthing	Separately via earth cable with a cross section of min. 2.5 mm ²		
Overvoltage Protection	Internal overvoltage protection		
Available Interfaces (depending on expansion stage)	<ul style="list-style-type: none"> • 1 x V.24 (CCU-3) • 1 x Ethernet according to IEEE 802.3/802.3u (CCU-3, MCU, V4U and BCU) • ISDN BRI, EDSS1 (applicable in all CCU-3, MCU, V4U and CAU) • ISDN PRI, EDSS1 (applicable in all CCU-3, MCU, V4U and CAU) • ISDN U₀, EDSS1 (applicable with all CCU-3, MCU, V4U und CAU) • Analogue interfaces (applicable in all CCU-3, MCU, V4U und CAU) • GSM 		
BRI Interface	<ul style="list-style-type: none"> • According to CTR 3, TBR 3, ITAAB • Supply S5+: 0 V or external with the USS (feeding unit) • Supply S6, S20/S20+: 40 V, 50 mA with the DC4 module 0 V without DC4 module • Range: max. 220 m (passive bus) max. 900 m (extended passive bus) max. 1000 m (point-to-point) 		



Electrical Data	S5+	S6	S20 / S20+
PRI Interface	<ul style="list-style-type: none"> • According to CTR 4 A1, 98/520/EG • Range: max. 1000 m using a 0,6 mm cable 		
U Interface	<ul style="list-style-type: none"> • According to ANSI T1.601, CTR 3, TBR 3 (2B1Q) • Supply S5+: 0 V • Supply S6, S20/S20+: 0 V or 110 V \pm 5 V, 25 mA (depending on module) • Range: max. 8000 m using a 0,6 mm cable • Max. allowed cable attenuation: 40 dB/40 kHz 		
Analogue Interface	<ul style="list-style-type: none"> • Automatic identification between IWV and MFV (ETSI Standards ETSI ES 201 235-1,2 V1.1.1) • Range up to 10,000 m (depending on cable type) • High ringing voltage with up to 5 US REN (Ringer Equivalent Number) according AT&T / 125 V Peak ringing voltage and protection from temperature rise • Adjustment of the line impedance for 15 countries (Austria, ..., Germany, ..., USA) • Caller ID after Bellcore/Telcordia GR-30-CORE <u>Bell202 FSK</u> CID Coding and ETSI 300-659-1/2/3 V1.3.1 <u>V.23 FSK</u> Coding for transmission of CID • Call charge pulse is 12/16 kHz configurable • Modem standards up to V.90 • Fax standards up to V.34 • Fax/Modem/Speech identification (Fax/Modem Switch) 		
GSM Interface	<ul style="list-style-type: none"> • GSM-Class Small MS • Dualband EGSM900 and GSM 1800 (GSM-Phase 2+) • Class 4 (2W) for EGSM900 • Class 1 (1W) for GSM1800 • Half Rate (ETS 06.20), Full Rate (ETS 06.10) • Extended Full Rate (ETS 06.50 / 06.60 / 06.80) • Output: 900 MHz = 2 Watt • Output: 1800 MHz = 1 Watt • Speech-Codec 		
IP Interface	<ul style="list-style-type: none"> • SIP 2.0 \rightarrow RFC3261 • ITU V.110 \rightarrow data interface between ISDN, IP and GSM • TLS and sRTP • Optional GPS receiver for synchronisation 		
Clock Accuracy	<p>Clock accuracy without GPS synchronisation:</p> <ul style="list-style-type: none"> • Worst Case: \pm 50 ppm • Temp. Drift: \pm 25 ppm at -20°C to $+70^{\circ}\text{C}$ • Pull Range: \pm 100 ppm <p>Clock accuracy with GPS synchronisation or RMCS option*:</p> <ul style="list-style-type: none"> • Long period (2 days) measurement: \pm 0.5 ppm ($5 \cdot 10^{-7}$) • Measured maximum short time variations caused by the GPS receiver: \pm 2 ppm ($2 \cdot 10^{-6}$) • Worst Case and guaranteed: \pm 5 ppm ($5 \cdot 10^{-6}$) 		
Encryption (SIP Gateway only)	<ul style="list-style-type: none"> • SRTP according to RFC3711 and RFC4711 (AES-CM-128 / HMAC-SHA1-32) • TLS Version 1.0 according to RFC2246 and RFC3268 • Key Agreement: RSA and Diffie Hellmann • Cipher Suite: AES, DES and 3DES • Certificate: X509v3 • Hash Functions : SHA and MD5 		



Electrical Data	S5+	S6	S20 / S20+
Codec and Speech Compression	<ul style="list-style-type: none"> • G.711 incl. Annex I (BFI) and Annex II (VAD/CNG) • G.726 incl. VAD/CNG, BFI error concealment and payload support RTP according "RFC 3551" • G.728, 16 kbit/s • G.729 A/B, 8 kbit/s • Fax Relay, T.38 support V.21, V.27ter, V.29 and V.17 • 30 ms Voice Packet size (all Codecs, upstream) • Adaptive/ Fixed Jitter Buffer maximal 200 msec • Jitter Buffer inband Modem Support • RTP/SRTP Protocol Support according to RFC3550 and RFC3711 • Payload Byte Counter (H248.1 Annex E) • X-CCD & Clear Mode for data transmission • Silence Compression • Comfort Noise Generation 		
Analogue Signalling	<ul style="list-style-type: none"> • The Near Line Echo Canceller (16 msec) is compatible with applicable ITU-T G.165 and G.168 standards. • Caller ID Sender (CIDS), V.23 and Bel202 • Caller ID Receiver (CIDR), V.23 and Bel202 • DTMF/AT Generator • DTMF Receiver (DTMFR)) according to ITU-T Q.23. • Universal Tone Generator (UTG) • Universal Tone Detector (UTD) according to ITU-T V.8 • Text Phone V.18 A Detector • Call Progress Tone Detector (CPTD) • Answering Tone Detector (ATD) • Digital Identification Signal (DIS) V.21 Detector • DTMF Event Support according to RFC2833 		
Environmental Specifications	S5+	S6	S20 / S20+
Storage and Transport	-20° C up to +90° C 0% up to 95% relative humidity (not condensing)		
Operation	+5° C up to +40° C 0% up to 95% relative humidity (not condensing)		
Max./Min. Temperature	0 up to 40° C		
Heat Loss (with power supplies without redundancy)	64 J	270 J	360 J
Heat Loss (with redundant power supplies)	---	Nominal: 33 J Max.: 64 J	Nominal: 71 J Max.: 87 J

**The same values apply for the NovaTec Sx versions which can be synchronized via the RMCS server or can act as RMCS server.