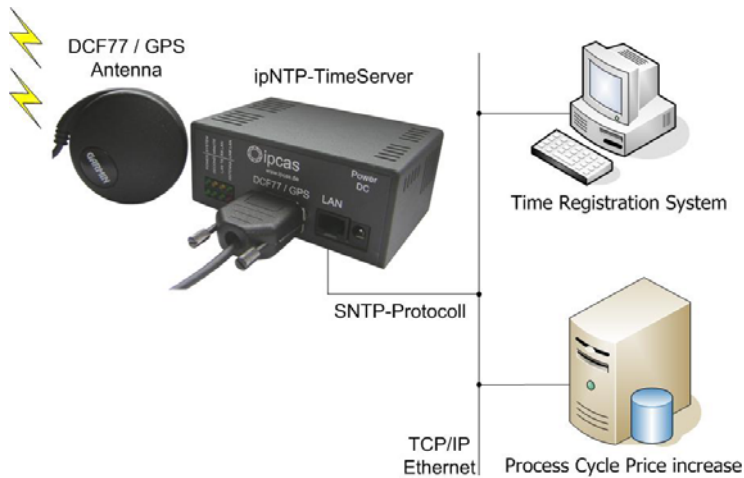


ipNTP

The Ethernet Standalone DCF77/GPS TimeServer



The ipNTP stand alone TimeServer can transfer DCF77/GPS time information by the Ethernet to computer, controller and other time-critical applications.

All components in a TCP/IP-Network can be synchronized by the SNTP-Protocol with the time-indication-transmitter in Mainflingen near Frankfurt am Main/Germany (DCF77) or with the global satellite navigation system (GPS).

Solutions with time accuracy are needed in process cycles, flow controls, Personnel data systems, Time registrations and Error loggings. With employment of the network protocol SNTP (Simple Network Time Protocol - RFC 2030) and TCP/IP the platform independence is guaranteed in heterogeneous networks too.

This radio clock is put on smallest area and becomes connection the Ethernet (10BaseT). External would be attached the DCF77 antenna (active DCF77 antenna with approx. 2.50 m cable length) or a GPS receiver that feeds the time signals for processing into the time server.

The Parameterizing of the stand-alone time server is made by means of Windows NT4/2000/XP -surface locally by the Ethernet. On the provided drivers-CD is a setup program for the configuration software.



NTP Server – Information (*Network Time Protocol*)

The Network Time Protocol (NTP) is used for time synchronisation of a client with other computers or external clock over internet/intranet. The primary NTP time servers are synchronised over external interval timers as exactly as possible to the Coordinated universal time (UTC). Again synchronise the NTP Clients their time by means of NTP - commands with the servers indicated as argument.

DCF77 – General Information (*D = Deutscher (German); C = long wave transmitter; F = Frankfurt; 77,5 kHz = frequency*)

The DCF77- Radio clocks receives the official time of the Federal Republic of Germany from the Physically Technical federal Institution in Braunschweig (PTB) and passes these on over different interfaces to computers and systems. By radio synchronisation of the DCF77 transmitter in Mainflingen near Frankfurt/M. (50 01 N, 9 00 0) the long-term accuracy of the PTB standard norm (gauge) is reached by 1×10^{-13} per week. Due to the high accuracy only this time is recognized as obligatory in the Federal Republic Germany (federal law gazette 42/1978, page 110).

The DCF77-Signal is emitted constantly, with exception of short interruptions because of maintenance or technical errors. For the duration of a thunderstorm at the transmission place the Dcf77 transmitter is switched off during this time.

GPS – General Information (Global Positioning System)

In approx. 20,000 km, satellites on different courses move height around the earth. In each satellite is an atomic clock (accuracy min. 1×10^{-12}), whose time is sent continuously with the course data. The GPS receiver registers the data of max. 6 satellites and calculates by these values its position.

If the position was computed, the running times of the data can be determined by the individual satellites. From these values the GPS world time in the time server is determined and resumed time-exactly over adjustable quartz.

Specifications

ipNTP - DCF77	Desktop	DIN-Rail Unit
Interfaces	1x antenna DCF77 1 x 10BaseT - RJ45 (can be operated in networks with 10/100 Mbit/s)	
Diagnosis-LEDs	Power, DCF77 Takt, Time Sync, Ethernet Transmit /Receive/Link	
Supply voltage	+ 8 - 14 V DC – Input Jack	+ 8 - 14 or 18 – 36 (24V) V DC ¹⁾ Input Jack and 3,5 mm connector
Accuracy	DCF77 receipt: ± 2 msec. Free-running properties: ± 2 ppm after VCO regulation at constant temperature (+10°C to +50°C) emergency clock: ± 25 ppm	
Housing	Plastic housing	Plastic housing
Dimensions W/H/D	Approx. 110/30/75 mm	Approx. 45/108/73 mm
Operating/storage temperature	5° C to 55° C / -10° C to 70° C	
Relative humidity	5% to 90 % non-condensing	
Standards	CE	
Scope of delivery	ipNTP & DCF77 antenna approx. 2,5 m, Configuration software, Driver for Windows (NT, 2000, XP), Documentation (German or English)	
	Power supply ²⁾ In: 230 V AC Out: + 9 V DC	Without power supply (optionally)
Order number	0202018	0202018-H24

ipNTP - GPS	Desktop	DIN-Rail Unit
Interfaces	1x GPS receiver 1 x 10BaseT - RJ45 (can be operated in networks with 10/100 Mbit/s)	
Diagnosis-LEDs	Power, DCF77 Takt, Time Sync, Ethernet Transmit /Receive/Link	
Supply voltage	+ 8 - 14 V DC – Input Jack	+ 8 - 14 or 18 – 36 (24V) V DC ¹⁾ Input Jack and 3,5 mm connector
Accuracy	GPS impulse: ± 300 nsec. Free-running properties: ± 2 ppm after VCO regulation at constant temperature (+10°C to +50°C) emergency clock: ± 50 ppm	
Housing	Plastic housing	Plastic housing
Dimensions W/H/D	Approx. 110/30/75 mm	Approx. 45/108/73 mm
Operating/storage temperature	5° C to 55° C / -10° C to 70° C	
Relative humidity	5% to 90 % non-condensing	
Standards	CE	
Scope of delivery	ipNTP & GPS Receiver approx. 2,5 m, Configuration software, Driver for Windows (NT, 2000, XP), Documentation (German or English)	
	Power supply ²⁾ In: 230 V AC Out: + 9 V DC	Without power supply (optionally)
Order number	0202019	0202019-H24

¹⁾ Other voltages on request

²⁾ Delivery only to countries with 230 V AC 50Hz

ipcas GmbH

Gundstraße 15

D-91056 Erlangen

Phone +49 (0)9131/ 7677-0

Fax +49 (0)9131/ 7677-78

Internet <http://www.ipcas.com>

E-Mail info@ipcas.de