

Services	CPU 41x-3 PN/DP	CPU 412 PN	CPU 314C-2 PN/DP	CPU 315T-3 PN/DP and CPU 317(T/TF)-3 PN/DP	CPU 315(F)-2 PN/DP and CPU 317(F)-2 PN/DP	CPU 319(F)-3 PN/DP	IM 151-8(F) PN/DP	IM 154-8(F/FX) PN/DP	WinAC RTX (F)	CPU 1211C / CPU 1212C / CPU 1214C / CPU 1214 FC / CPU 1215C / CPU 1215 FC / CPU 1217C
S7 communication	X	X	X ¹⁾	X ¹⁾	X ¹⁾	X ¹⁾	X ¹⁾	X ¹⁾	X	X
Open communication via IE	X	X	X	X	X	X	X	X	X	X
ISO transport protocol	-	-	-	-	-	-	-	-	-	-
ISO-on-TCP protocol	X	X	X	X	X ²⁾	X	X	X	X ¹¹⁾	X
TCP protocol	X	X	X	X	X	X	X	X	X	X
UDP protocol	X	X	X	X	X ²⁾	X	X	X	X	X
IT communication										
Sending e-mails as SMTP client	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X ²⁴⁾	X
HTML utilities (Web server)	X	X	X	X	X ²⁾	X ²⁾	X	X	X ¹¹⁾	X
FTP serv er	-	-	-	-	-	-	-	-	-	-
FTP client	-	-	-	-	-	-	-	-	-	-
IP access protection (IP-ACL)	-	-	-	-	-	-	-	-	-	-
IP configuration	X ¹⁵⁾	X ¹⁵⁾	X	X	X ¹⁴⁾	X ¹⁴⁾	X ¹⁴⁾	X ¹⁴⁾	-	X
PG/OP communication	X	X	X	X	X	X	X	X	X	X
SNMP protocol	X	X	X	X	X ²⁾	X	X	X	X	X
PROFINET IO controller	X	X	X	X	X ²⁾	X	X	X	X	X
PROFINET IO devices	X ¹²⁾	X	X	X	X ¹³⁾	X ¹³⁾	X ¹³⁾	X ¹³⁾	-	X
Shared device	X ¹²⁾	X	X	X	X ¹³⁾	X ¹³⁾	X ¹³⁾	X ¹³⁾	X ¹¹⁾	X
I device	X ¹²⁾	X	X	X	X ¹³⁾	X ¹³⁾	X ¹³⁾	X ¹³⁾	-	X
PROFINET CBA	X	X	X	X	X	X	X	X	X	-
Media Redundancy Protocol (MRP)	X ¹²⁾	X	X	X	X ¹³⁾	X ¹³⁾	X ¹³⁾	X ¹³⁾	X ¹¹⁾	-
S7 routing	X	X	X	X	X	X	X ⁹⁾	X	X	-
Data set routing	X ²¹⁾	X	X	X	X ²⁰⁾	X ¹⁹⁾	X ^{9 13)}	X ¹³⁾	X ¹¹⁾	-
Time-of-day synchronization	X	X	X	X	X	X	X	X	X	X
SIMATIC process	-	-	-	-	-	-	-	-	-	-
NTP mode (as time client)	X	X	X	X	X	X	X	X	X	X
Connections (physical)										
Ethernet / PROFINET	2xRJ45 (2-port switch)	2xRJ45 (2-port switch)	2xRJ45 (2-port switch)	2xRJ45 (2-port switch)	2xRJ45 (2-port switch) ¹⁶⁾	2xRJ45 (2-port switch) ¹⁷⁾	3xRJ45	2xM12 d-coded, 1xRJ45	X ⁸⁾	1xRJ45 ²⁵⁾ 2xRJ45 (2-port switch) ²⁶⁾
PROFIBUS	2xRS485	1xRS485	1xRS485	2xRS485	1xRS485	2xRS485	X ⁷⁾	RS485 / 2xM12 b-coded	X ⁸⁾	-
Transmission rates										
10 Mbit/s	X	X	X	X	X	X	X	X	X	X
100 Mbit/s	X	X	X	X	X	X	X	X	X	X
Quantity frameworks										
Number of possible connections for open communication services	62 and 94	46	8	8 and 16	8 and 16	32	8	8	32	8
Amount of user data with TCP protocol	32 Kbytes	32 Kbytes	32 Kbytes ⁵⁾ 1460 bytes ⁴⁾	32 Kbytes ⁵⁾ 1460 bytes ⁴⁾	32 Kbytes ^{5 6)} 1460 bytes ⁴⁾	32 Kbytes ^{5 16)} 1460 by tes ⁴⁾	32 Kbytes ^{5 16)} 1460 by tes ⁴⁾	32 Kbytes ^{5 16)} 1460 bytes ⁴⁾	32 Kbytes	8 Kbytes
Amount of user data with ISO-on-TCP	32 Kbytes	32 Kbytes	32 Kbytes	32 Kbytes	32 Kbytes ⁶⁾	32 Kbytes ¹⁶⁾	32 Kbytes ¹⁶⁾	32 Kbytes ¹⁶⁾	32 Kbytes	8 Kbytes
Amount of user data with UDP protocol	1472 bytes	1472 bytes	1472 bytes	1472 bytes	1472 bytes	1472 bytes	1472 bytes	1472 bytes	1472 bytes	1472 bytes
Number of S7 communications	64 and 96	48	10	14 / 16	14 / 16	16	10	16	X ¹⁰⁾	8
Number of PG connections	63 and 95	47	11	15 / 31	15 / 31	31	11	15	X ¹⁰⁾	4
Number of OP connections	63 and 95	47	11	15 / 31	15 / 31	31	11	15	X ¹⁰⁾	12
Number of connectable IO Devices, max.	256	256	128	128	128	256	128	128	128 ²²⁾ 256 ²³⁾	16

¹⁾ The CPU supports S7 Communication as server and client via the PN interface.
The CPU supports S7 Communication only as server via the DP interface.

²⁾ The function or service is supported as from firmware V2.5.

³⁾ The S7 Routing function is supported with slotted DP master module.

⁴⁾ If connection type = 01_{HEX}

⁵⁾ If connection type = 11_{HEX}

⁶⁾ As from firmware V3.1 (with firmware < V3.1 max. 8192 bytes)

⁷⁾ The IM151-8 PN/DP CPU gets the RS485 interface via the DP master module.

⁸⁾ WinAC RTX supports one IE or PROFINET interface. Possible interfaces:

- Intel Pro/1000 or the integrated IE interfaces of SIMATIC PC
- CP1616, CP1604 or the integrated PN interfaces of the SIMATIC PC and S7-mEC

⁹⁾ WinAC RTX supports up to 4 PROFIBUS interfaces:

- max. 1xCP5611 (A2), CP5621 or integrated PROFIBUS interface of the SIMATIC PC and/or
- up to 4xCP5613 (A2), CP5603

¹⁰⁾ Depending on the interface:

- CP5611 (A2), CP5621 or integrated PROFIBUS interface of the SIMATIC PC: max. 8
- CP5613 (A2) or CP5603: max. 50
- Intel Pro/1000 or the integrated IE interfaces of SIMATIC PC: max. 16
- CP1616, CP1604 or the integrated PN interfaces of the SIMATIC PC and S7-mEC: max. 32

¹¹⁾ The function or service is supported as from firmware V4.6 (WinAC RTX (F) 2010).

¹²⁾ The function or service is supported as from firmware V6.0.

¹³⁾ The function or service is supported as from firmware V3.2.

¹⁴⁾ From firmware V3.2 you can set and change the IP address via DCP (Discovery and Configuration Protocol) or via the user program with SFB104 "IP_CONF".

¹⁵⁾ From firmware V6.0 you can set and change the IP address via DCP (Discovery and Configuration Protocol) or via the user program with SFB104 "IP_CONF".

¹⁶⁾ From firmware V3.1 the hardware is provided with 2xRJ45 interfaces (2-port-switch).

¹⁷⁾ From firmware V3.2 the hardware is provided with 2xRJ45 interfaces (2-port-switch).

¹⁸⁾ As from firmware V3.2 (with firmware < V3.2 max. 8192 bytes)

¹⁹⁾ The function or service is supported as from firmware V2.7.

²⁰⁾ The function or service is supported as from firmware V3.1.

²¹⁾ The function or service is supported as from firmware V5.1.

²²⁾ Via integrated IE interface of SIMATIC PC and SIMATIC IPC.

²³⁾ Via CP 1616 or CP 1604 (integrated PROFINET interface of SIMATIC PC and S7-mEC).

²⁴⁾ With FB PN_MAIL (FB490): see application sample [46817803](#)

²⁵⁾ Valid for CPU 1211C, CPU 1212C, CPU 1214C, CPU 1214 FC

²⁶⁾ Valid for CPU 1215C, CPU 1215 FC, CPU 1217C