SIEMENS

SIMATIC

S5-135U/155U

System Manual

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With the distributed configuration, a distinction is made between parallel and serial communication. The main features of these types of communication are as follows:

- Parallel — Fast data transmission line length of up to 600 m
- Serial — Slower data transmission line length of up to 3000 m

2.2.1 Installing a PLC with Centralized Configuration

The following table shows which interface modules and connecting cables can be used for connecting the various expansion units to the CC in a centralized configuration.

Interface Module in the CC	Expansion Unit	Interface Module in the EU	Connecting Cable Max. Distance
IM 300-3 6ES5 300-3AB11	EU 183U EU 185U (I/O mod. only)	IM 312-3 [2] 6ES5 312-3AB11	fixed to the IM 312 module 0.5 m; 0.95 m
IM 301-3 [1] 6ES5 301-3AB13	EU 183U EU 185U (I/O mod. only)	IM 312-3 [2] 6ES5 312-3AB31	fixed to the IM 312 module 0.5 m; 0.95 m
IM 300-5 6ES5 300-5CA11	EU 184U EU 187U	IM 312-5 6ES5 312-5CA11	fixed to the IM 312 module 0.5 m; 1.5 m
IM 301-5 [1] 6ES5 301-5CA12	EU 184U EU 187U	IM 312-5 6ES5 312-5CA21	fixed to the IM 312 module 0.5 m; 1.5 m
IM 300-5 6ES5 300-5LB11	ER 701-1	IM 306 6ES5 306-7LA11	6ES5 705-0xxxx 0.5 m to 2,5 m

[1] This IM has a second interface for distributed communication.

[2] The last IM 312-3 always requires a 6ES5 760-0AB11 terminator.

To install a PLC in a centralized configuration, you must observe the following conditions:

- A centralized configuration is generally only suitable for connecting I/O modules (DI, DO, AI, AO) and some intelligent I/O modules (IPs) in the EU (see the Configuring Aids in the catalog and Chapter 4).

- The line length between the IM in the CC and the last IM in the EU must not exceed 2 m.

2.2.2 Installing a PLC with Distributed Configuration

To install a PLC in a distributed configuration, you have a choice of parallel/symmetrical and serial communication. The following table shows which interfaces and connecting cables can be used to connect the various expansion units (EUs/ERs) to the CC in a distributed configuration.

Interface Module in the CC	Expansion Unit	Interface Module in the EU	Connecting Cable Max. Permiss. Line Length
IM 301-3 6ES5 301-3AB13 (not for S5-155H) IM 301-5 6ES5 301-5CA12	EU 183U ER 701-2 ER 701-3 EU 183U EU 185U	IM 310 [1] 6ES5 310-3AB11 IM 310 [1] 6ES5 310-3AB11	6ES5 721-0xxxx 1 m to 200 m
IM 304 6ES5 304-3UB11	ER 701-2 ER 701-3 EU 183U EU 185U	IM 314 [1] 6ES5 314-3UA11	6ES5 721-0xxxx 1 m to 600 m
IM 308 6ES5 308-3UA12	ER 701-2 ER 701-3 EU 183U EU 185U	IM 318-3 6ES5 318-3UA11	6ES5 707-5AA00 V45551-F21-B5 up to 3000 m
	ET 100U (Catalog ST 52.1)	IM 318-8 6ES5 318-8MA12	
	ICM 560	–	
IM 308-B 6ES5 308-3UB11	ET 200	IM 318-B 6ES5 318-8MB11	Cable connection
IM 307 6ES5 307-3UA11	ER 701-2 ER 701-3	IM 317 6ES5 317-3UA11	6ES5 722-2xxxx Fiber optic cable up to 1500 m
	EU 183U EU 185U	IM 317 6ES5 317-3UA11	

[1] The last IM 310 or IM 314 always requires a 6ES5 760-1AA11 terminator.

The ER 701-2 and ER 701-3 always additionally require an IM 306 for communication via an IM 304, IM 307 or IM 308.

To install a PLC in a distributed configuration, you must observe the following conditions:

- With the IM 301/IM 310 pair of interface modules, you can only use I/O modules (DI, DO, AI, AO) and IPs without page addressing in the EUs.
- With the IM 304/314 pair of interface modules, you can use all IPs, CPs and I/O modules in the EU 185U.

Note

The IM 307/317, IM 308/318 and IM 308-B/318-B each have their own manual (see catalog).
