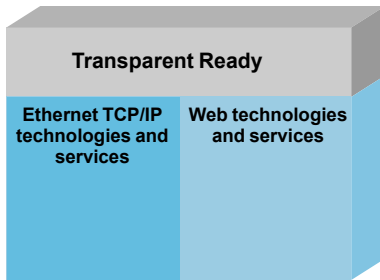


Ethernet in Machines and Installations

Service classes offered



Presentation

The Transparent Ready service classes make it possible to identify the services provided by each device:

- Diagnostic, display and control services via Web technologies
- Ethernet communication services.

The Transparent Ready service classes thus simplify the choice of devices and ensure their interoperability within an architecture.

Ethernet in Machines and Installations

Service classes offered

Choice of Transparent Ready devices

The services provided by a Transparent Ready device are identified by a letter defining the level of Web service, followed by a number defining the level of Ethernet communication service. For example:

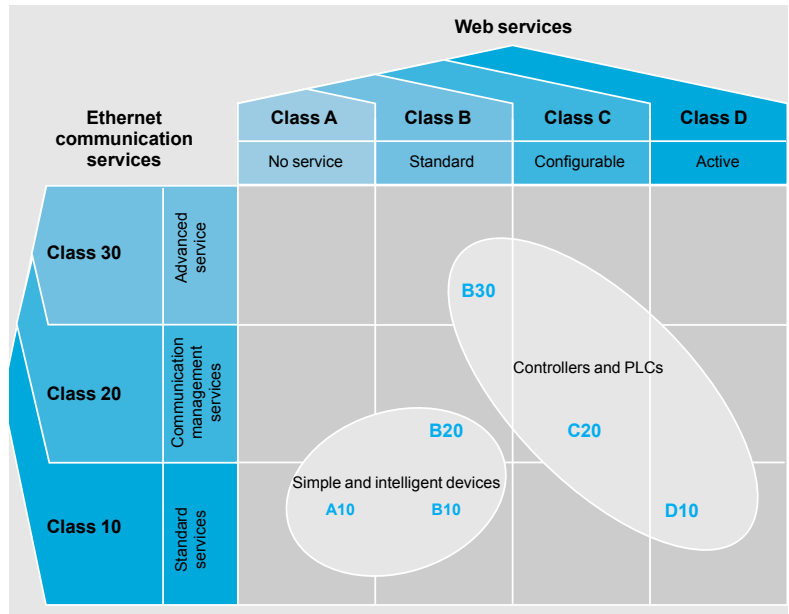
- A class **A10** product is a device with no Web service and standard Ethernet services
- A class **C30** product is a device with a configurable Web server and advanced Ethernet communication services.

The services provided by a higher class include all the services supported by a lower class.

Transparent Ready devices are chosen from 4 main families:

- Sensor and preactuator type field devices (simple or intelligent)
- Controllers and PLCs
- Human Machine Interface (HMI) applications
- Dedicated gateways and servers.

The selection table on the following pages can be used for choosing Transparent Ready devices according to the required service classes.



Ethernet in Machines and Installations

Service classes offered

Web service classes

The Web services are defined by 4 classes identified by a letter:

- Class **A**: No Web service
- Class **B**: Standard Web services
- Class **C**: Configurable Web services
- Class **D**: Active Web services.

Transparent Ready devices with an embedded Web server can provide 4 types of Web service:

- Maintenance Web services
- Control Web services
- Diagnostic Web services
- Optional Web services such as documentation or configuration.

The following table specifies the services provided by each Web service class (A, B, C or D).

Web server class		Web services			
		Maintenance	Monitoring and IT link	Diagnostics	Optional
D	Active Web server	- User website update	- Autonomous execution of specific services (e.g. alarm notification by E-mail, exchange with databases, calculations, ...) - SOAP/XML (client/server)	- User-defined states	- User documentation
C	Configurable Web server		- PLC variables editor - Remote commands - User Web pages - SOAP/XML (server)	- Communication service diagnostics - State of internal device resources	
B	Standard Web server	- Remote device software update - Remote auto-tests	- Device description - Data viewer	- Device status - Device diagnostic	- Configuration of network parameters and Ethernet communication services - Device documentation
A	No Web server	- No Web service			

Ethernet in Machines and Installations

Service classes offered

Ethernet communication service classes

The Ethernet communication services provided by a device are defined by 3 classes, identified by a number:

- Class 10: standard Ethernet communication services
- Class 20: Ethernet communication management services (network level and device level)
- Class 30: advanced Ethernet communication services.

Transparent Ready devices can provide eight types of Ethernet communication service:

- Modbus TCP/IP messaging service
- I/O Scanning service
- FDR (*Faulty Device Replacement*) service
- SNMP network management service
- Global Data service
- Bandwidth management service
- NTP time synchronization service
- SMTP event notification service (E-mail).

The following table specifies the services provided for each Ethernet communication service class.

Ethernet communication service classes		Ethernet communication services							
		Modbus messaging	I/O Scanning	FDR	Network management SNMP	Global Data	E-mail SMTP	Bandwidth management	Time synchronization NTP
30	Advanced services	- Direct reading/writing of I/O	- Periodic reading/writing of I/O - Configuration of the list of devices scanned	- Automatic control and updating of the device parameters configuration	- Use of the MIB library by an SNMP manager	- Publication and subscription of network variables	- Notification of events by E-mail	- Monitoring of load level	- Synchronization of device clocks
20	Communication management services			- Automatic assignment of the IP address and network parameters - Control and updating of the configuration and device parameters by the user	- Detection of devices by an SNMP manager				
10	Standard services	- Reading/writing of data words		- Local assignment of the IP address Verification of duplicate IP addresses					