



FX3U-ENET Ethernet Interface Block

Ethernet
communication using
GX IEC Developer

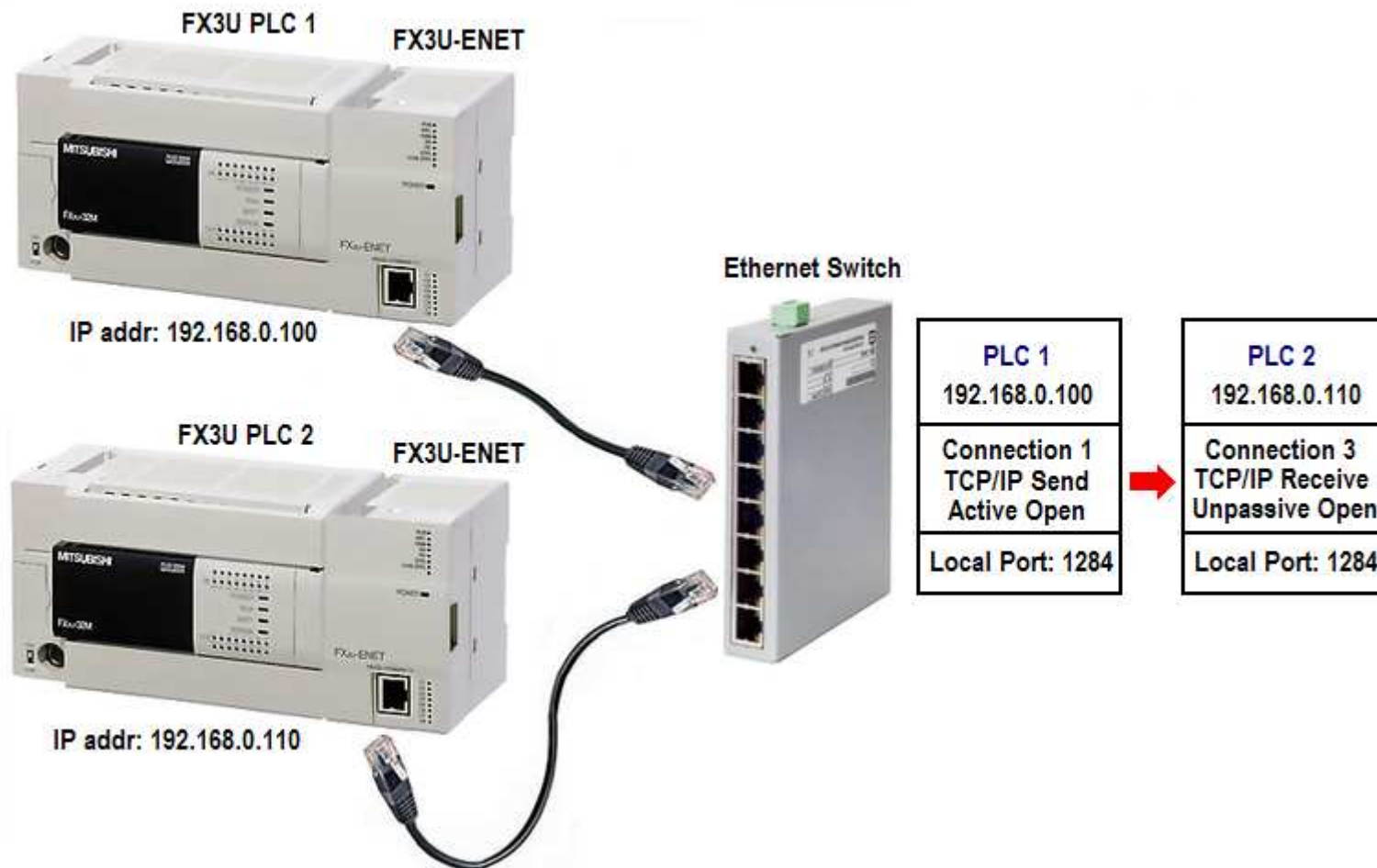
Module overview

- **FX3U-ENET is an interface block on the PLC side for connecting a FX3U PLC with a host system and/or other PLCs using the TCP/IP or UDP/IP communication protocol via Ethernet (100BASE-TX,10BASE-T)**
- **TCP/IP communication protocol:**
 - **Connection based protocol**
 - **Guarantees data credibility and reliability in communication**
- **UDP/IP communication protocol**
 - **Connectionless protocol**
 - **Does NOT guarantee data credibility and reliability in communication**

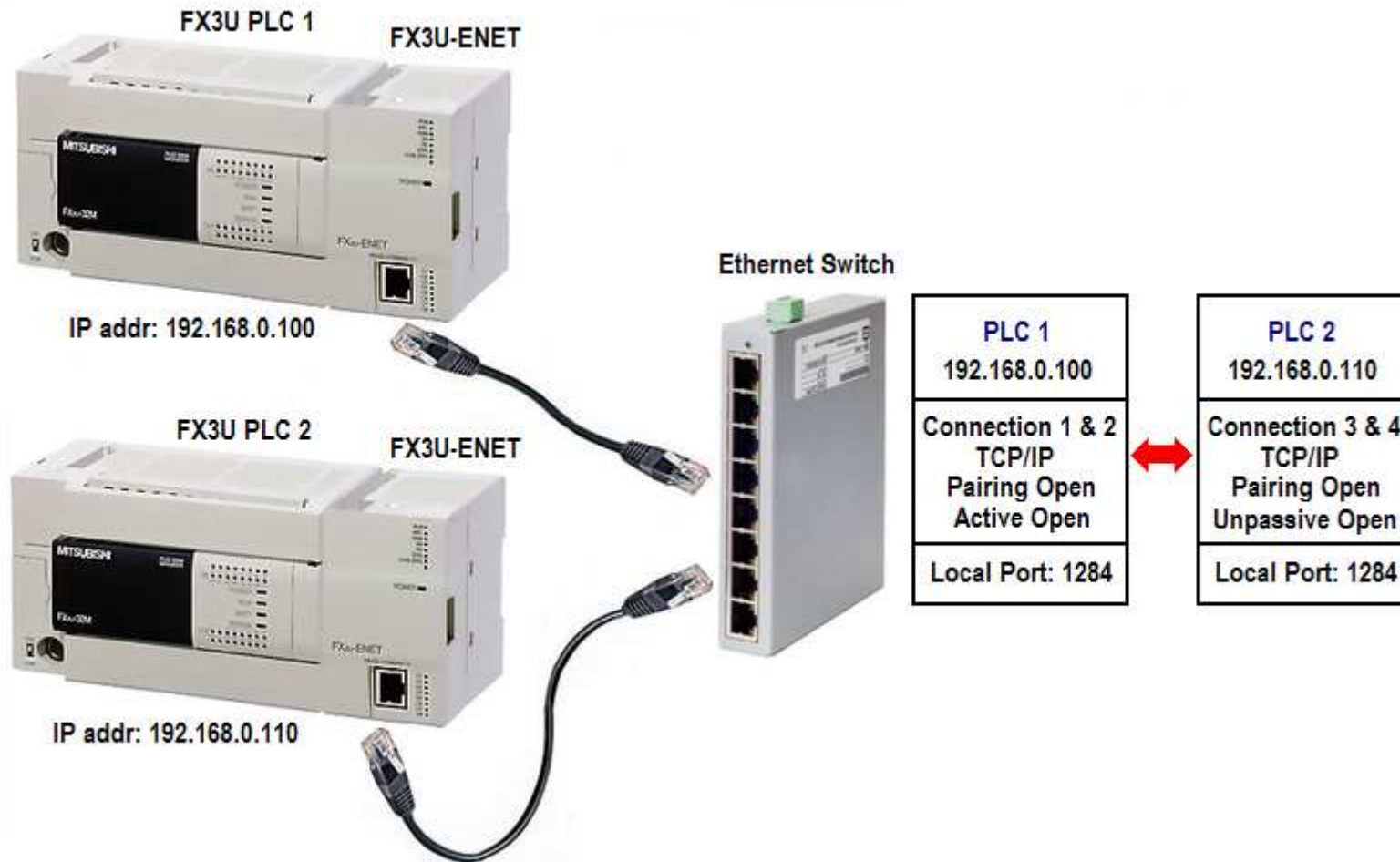
Communication types overview

- **In the communication using Fixed Buffers a maximum of 1023 words of arbitrary data can be exchanged between PLCs or between a PLC and a host system**
- **The FX3U-ENET Ethernet module can handle a maximum of 8 simultaneous connections and each connection can be either send or receive**
- **We analyze 7 communication types:**
 - **TCP/IP Fixed Buffer communication**
 - **TCP/IP Fixed Buffer Pairing Open communication**
 - **UDP/IP Fixed Buffer Pairing Open communication**
 - **Third party communication (using Fixed Buffer Pairing Open communication)**
 - **TCP/IP Fixed Buffer Pairing Open communication with a System Q PLC with a connected QJ71E71-100 Ethernet interface module**
 - **UDP/IP Fixed Buffer Simultan communication**
 - **E-Mail function (Send / Receive)**

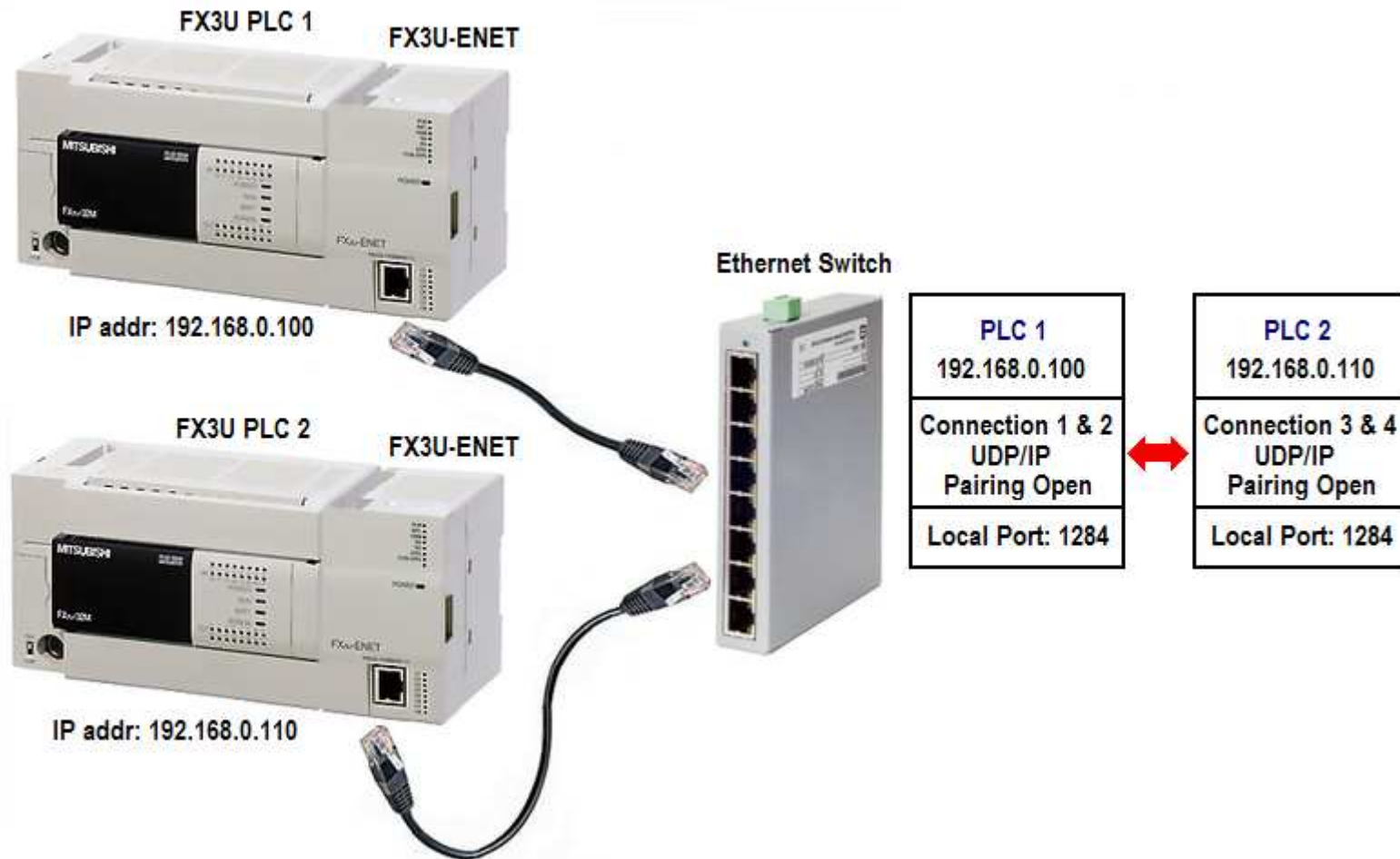
Fixed Buffer TCP/IP (PLC 1 → PLC 2)



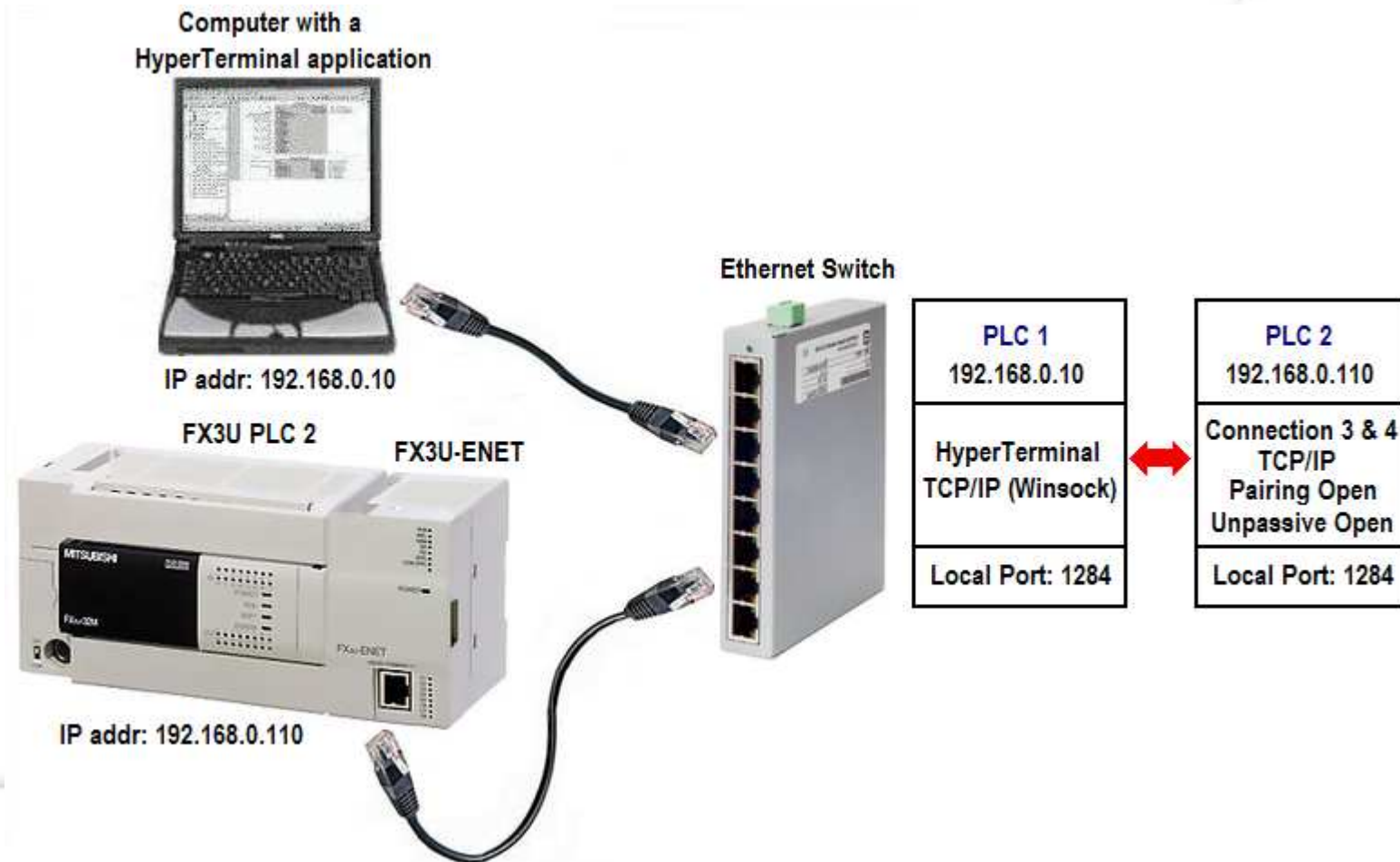
Fixed Buffer TCP/IP Pairing Open (PLC 1 ↔ PLC 2)



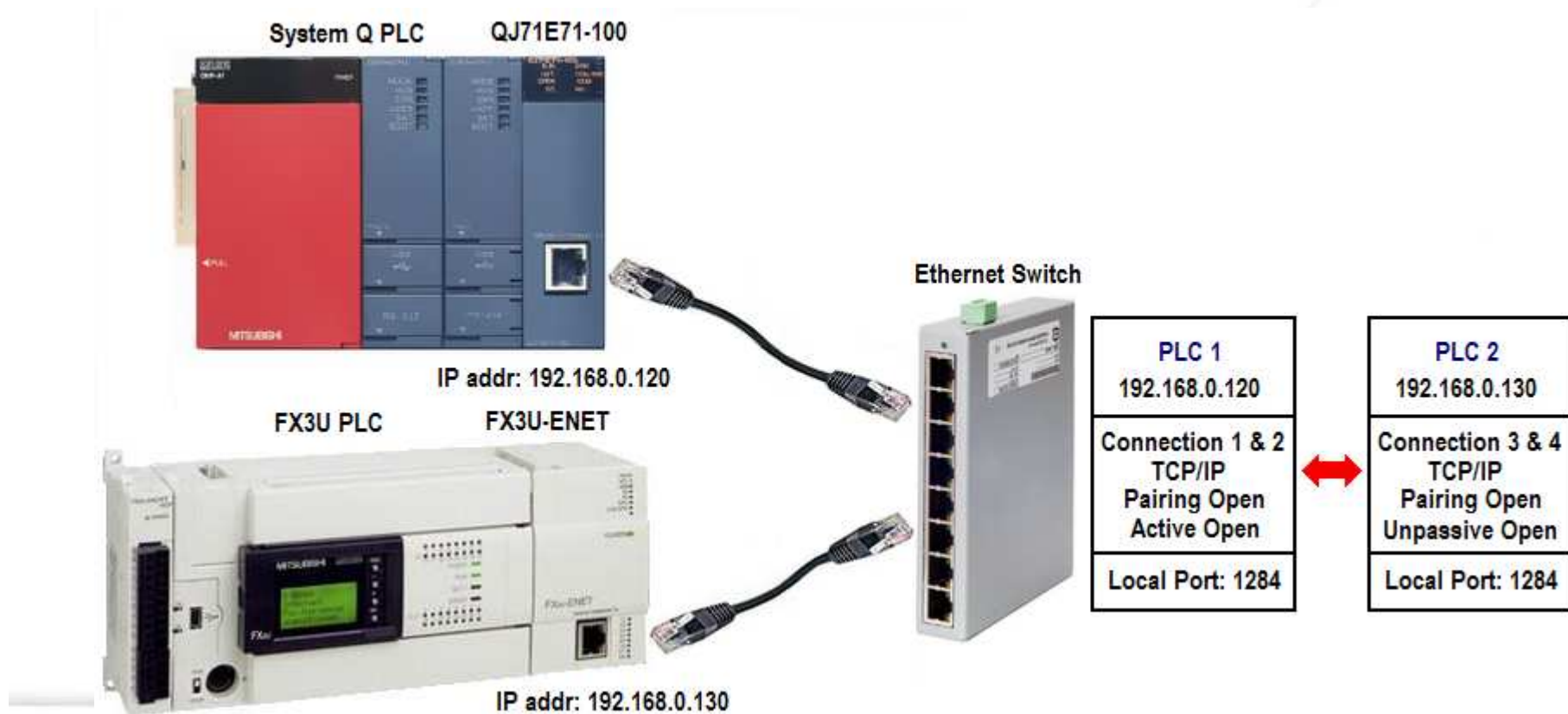
Fixed Buffer UDP/IP Pairing Open (PLC 1 ↔ PLC 2)



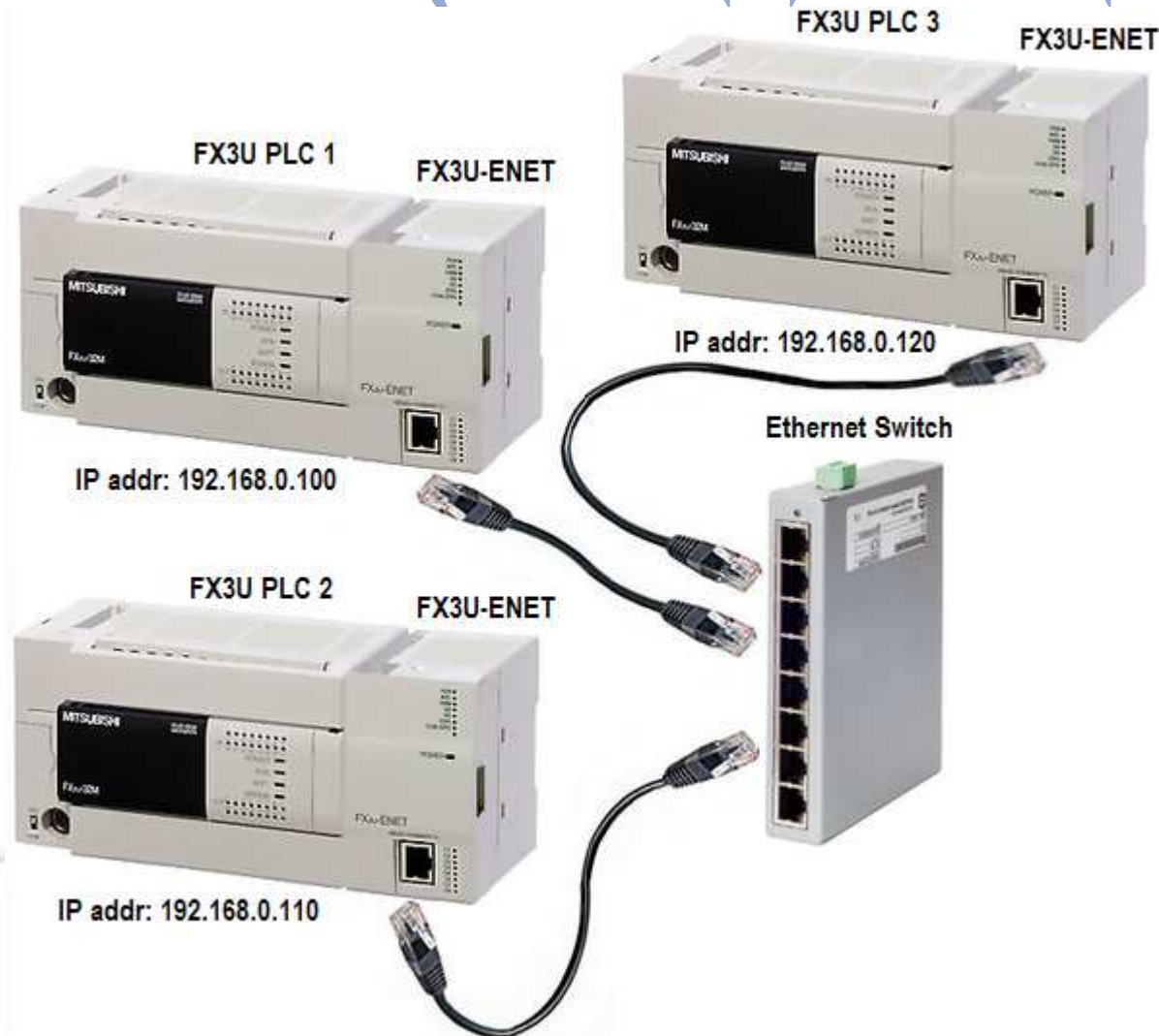
Third-party communication (PC ↔ PLC)



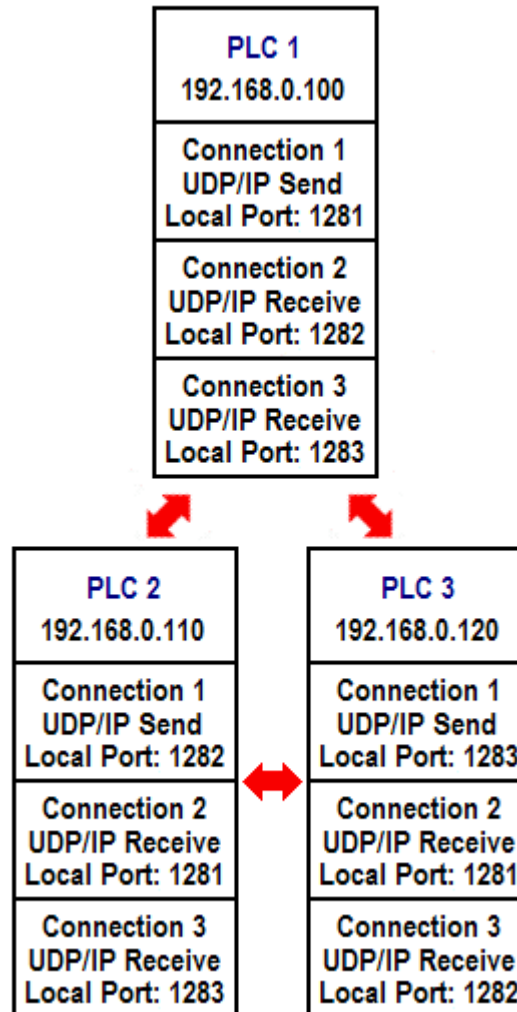
Fixed Buffer TCP/IP Pairing Open (FX3U-ENET ↔ QJ71E71-100)



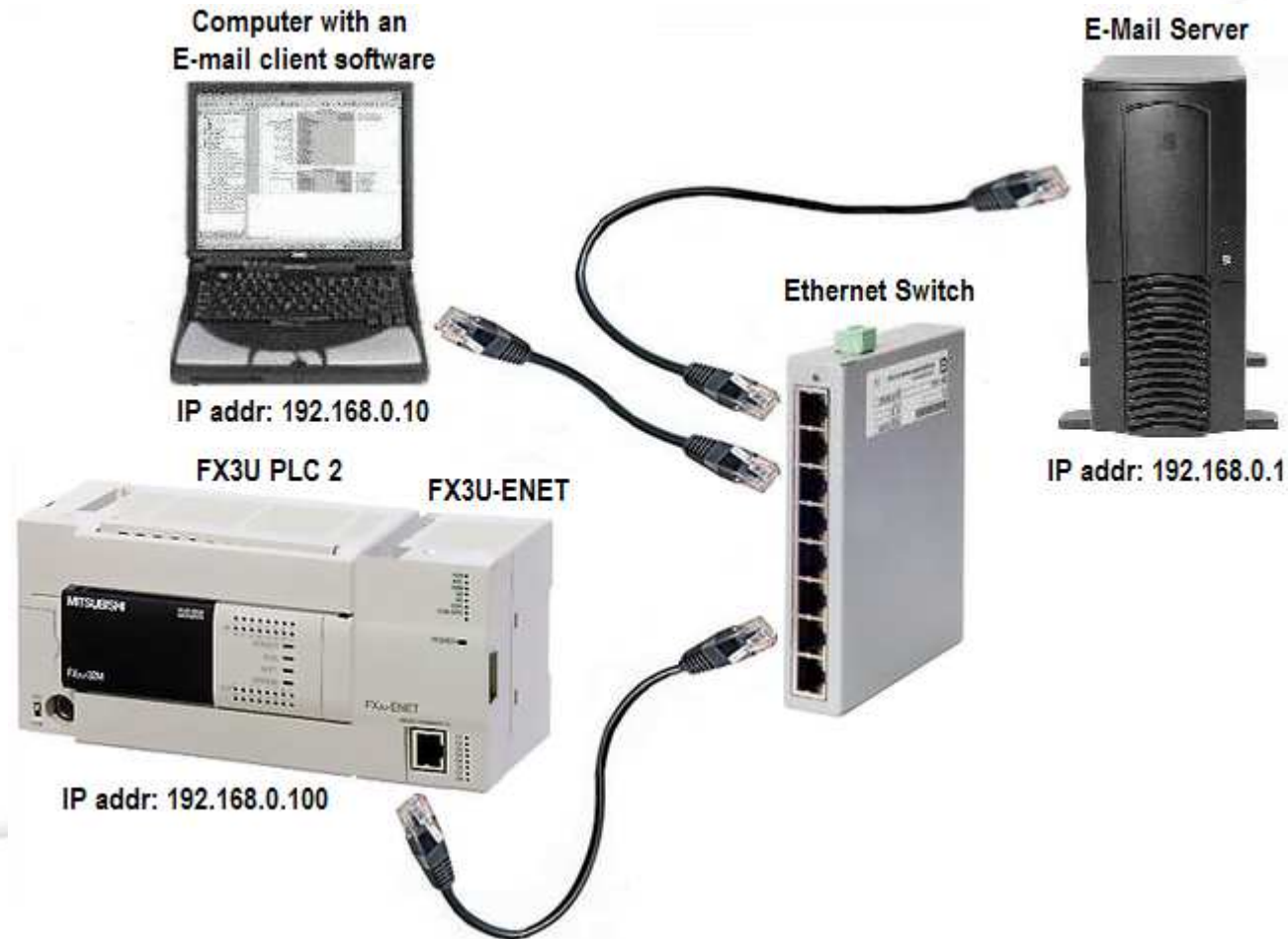
Fixed Buffer UDP/IP Simultaneous communication (PLC 1 ↔ PLC 2 ↔ PLC 3)



Fixed Buffer UDP/IP Simultaneous communication (PLC 1 ↔ PLC 2 ↔ PLC 3)



E-mail function (Send / Receive)



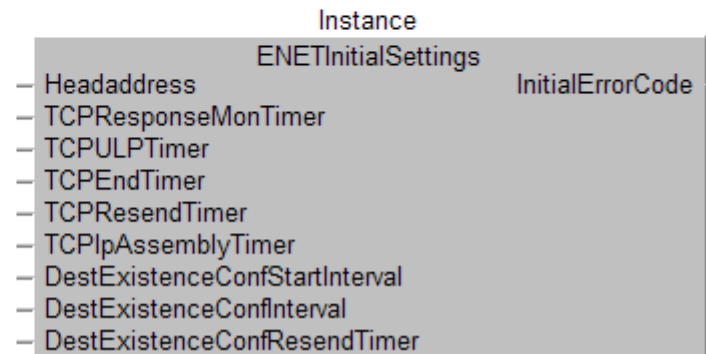
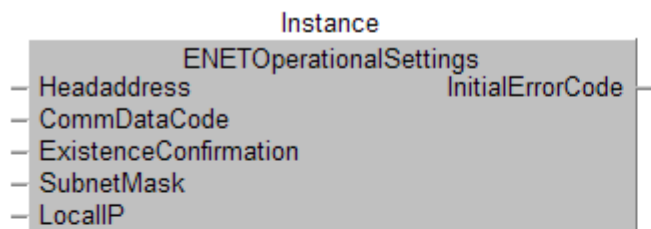
Fixed Buffer communication (PLC 1 ↔ PLC 2)

File / Directory	Description
EthernetFX3UPLC1	<p>Project directory containing the Ethernet Fixed Buffer communication program examples for the first FX3U PLC.</p> <ul style="list-style-type: none"> • TCP/IP Fixed Buffer Pairing Open Active program example • UDP/IP Fixed Buffer Pairing Open program example • TCP/IP Fixed Buffer Active Send program example • UDP/IP Simultan communication program example • E-mail send program example • E-mail receive program example
EthernetFX3UPLC2	<p>Project directory containing the Ethernet Fixed Buffer communication program examples for the second FX3U PLC.</p> <ul style="list-style-type: none"> • TCP/IP Fixed Buffer Pairing Open Unpassive program example • UDP/IP Fixed Buffer Pairing Open program example • TCP/IP Fixed Buffer Unpassive Receive program example • UDP/IP Simultan communication program example

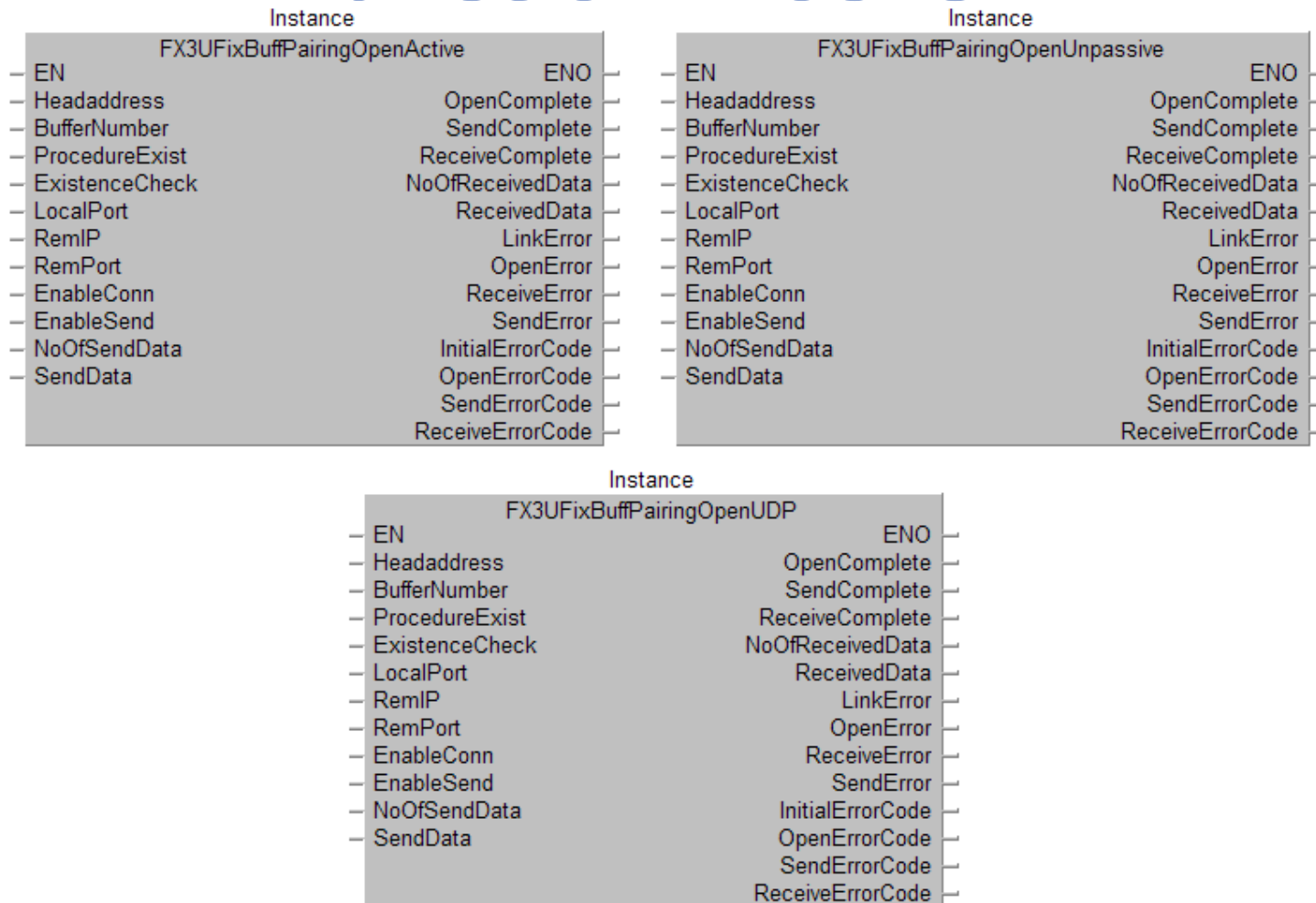
Fixed Buffer communication (PLC 1 ↔ PLC 2)

File / Directory	Description
EthernetFX3UPLC3	<p>Project directory containing the Ethernet Fixed Buffer communication program examples for the third FX3U PLC.</p> <ul style="list-style-type: none"> • UDP/IP Simultan communication program example
EthernetFX3U_Vxxx.chm	<p>Compiled HTML Help file containing detailed information on:</p> <ul style="list-style-type: none"> • Setting-up the FX3U-ENET Ethernet interface block parameters • Function blocks available in the EthernetFX3U library • Writing communication programs

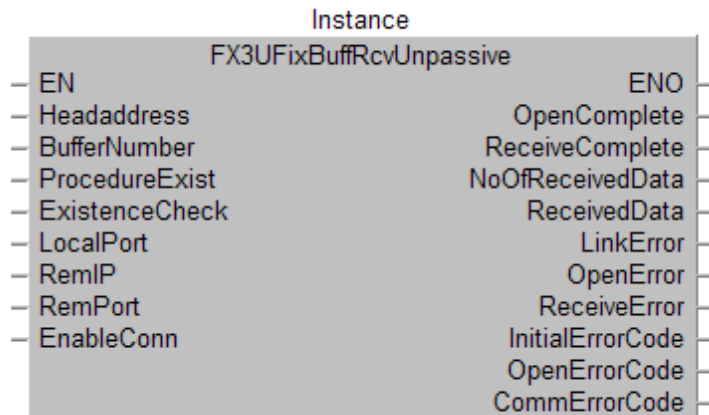
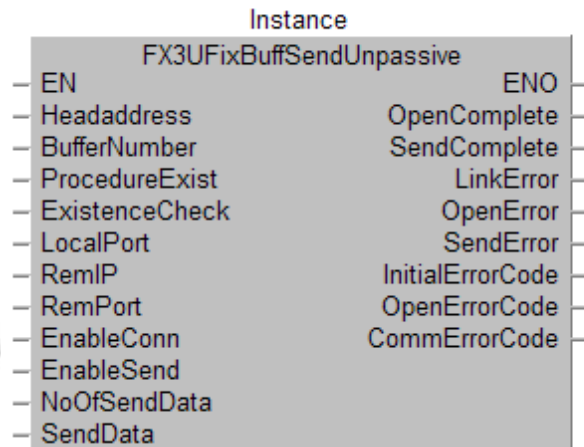
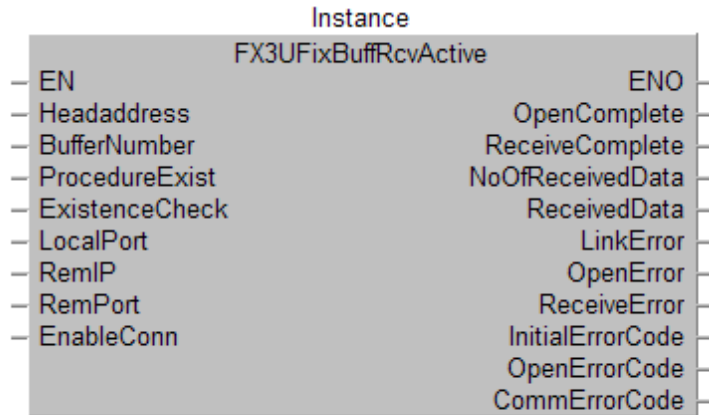
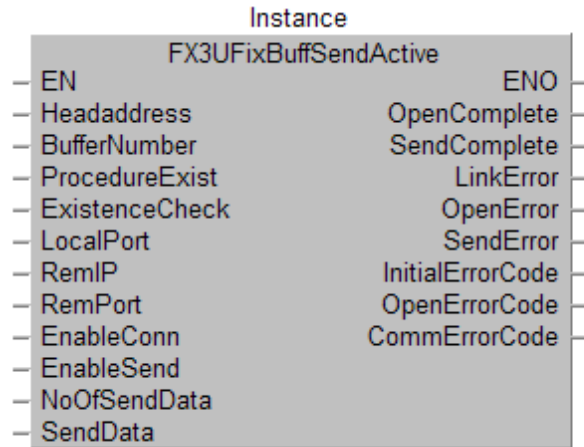
FX3U-ENET Parameter setting Function Blocks



Fixed Buffer Pairing Open Function Blocks



Fixed Buffer TCP/IP Send/Receive Function Blocks



Fixed Buffer UDP/IP Send/Receive Function Blocks

Instance	
FX3UFixBuffSendUDP	
- EN	ENO
- Headaddress	OpenComplete
- BufferNumber	SendComplete
- ProcedureExist	LinkError
- ExistenceCheck	OpenError
- LocalPort	SendError
- RemIP	InitialErrorCode
- RemPort	OpenErrorCode
- EnableConn	CommErrorCode
- EnableSend	
- NoOfSendData	
- SendData	

Instance	
FX3UFixBuffRcvUDP	
- EN	ENO
- Headaddress	OpenComplete
- BufferNumber	ReceiveComplete
- ProcedureExist	NoOfReceivedData
- ExistenceCheck	ReceivedData
- LocalPort	LinkError
- RemIP	OpenError
- RemPort	ReceiveError
- EnableConn	InitialErrorCode
	OpenErrorCode
	CommErrorCode

FX3U-ENET E-Mail Send / Receive Function Blocks

