

Modicon X80 modules platform

X80 Communication modules

Communication modules

|                |                            |                                              |                       |
|----------------|----------------------------|----------------------------------------------|-----------------------|
| Applications   | AS-Interface communication | Serial link communication                    | CANopen communication |
| Type of device | AS-Interface module        | Modbus and Character mode serial link module | CANopen master module |



| Network protocols            |                                              |  AS-Interface |  Modbus and Character mode                                             |  CANopen                      |
|------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Structure                    | Physical interface                           | AS-Interface V3 standard                                                                       | Non-isolated RS-232, 8-wire<br>Isolated RS-485, 2-wire                                                                                                  | ISO 11898                                                                                                        |
|                              | Type of connector                            | 3-way SUB-D                                                                                    | 1xRJ45 and 2XRJ45                                                                                                                                       | 9-way SUB-D male                                                                                                 |
|                              | Access method                                | Master/slave                                                                                   | –                                                                                                                                                       | Master/slave                                                                                                     |
|                              | Data rate                                    | 167 Kbps                                                                                       | 0.3...115.2 Kbps in RS 232<br>0.3...57.6 Kbps in RS 485                                                                                                 | 500 Kbps at 100 m/328 ft<br>1 Mbps at 20 m/65.62 ft                                                              |
| Medium                       |                                              | 2-wire AS-Interface cable                                                                      | Shielded twisted pair copper cable                                                                                                                      | Shielded twisted pair copper cable                                                                               |
| Configuration                | Maximum number of devices                    | 62 slaves                                                                                      | 2 per drop, 16 per Ethernet remote I/O (RIO) network max.                                                                                               | 63 slaves                                                                                                        |
|                              | Maximum length                               | 100 m/328 ft,<br>500 m/1640 ft max. with 2 repeaters                                           | 15 m/49.21 ft with non-isolated RS 232,<br>1000 m/3280 ft with non-isolated RS 485                                                                      | 100 m/328 ft<br>2,500 m/8,202 ft with repeater                                                                   |
|                              | Number of links of the same type per station | BMXP341000 processor:<br>2 AS-Interface modules                                                | 20/36 application-specific channels with BMXP341000/P342●●● (1 application-specific channel = 1 counter, motion control, or serial link module channel) | Limitation depends on number of available Ethernet slots in Modicon M580 Local and Remote Racks                  |
|                              |                                              | BMXP3420●0 or BMEP58 processor:<br>4 AS-Interface modules                                      | 36 application specific channels max. 6 BMXNOM0200 modules per BM●CRA31210 Ethernet drop adapter (1)                                                    | Each BMECXM0100 counts as a DIO devices. Number of DIO devices depends on CPU/NOC capacity and IO scanner memory |
| Standard services            |                                              | BM●CRA31210 Ethernet drop adapter:<br>2 AS-Interface modules                                   | All M580 processors: 36 application-specific channels                                                                                                   | –                                                                                                                |
| Standard services            |                                              | Transparent exchanges with the sensors/actuators                                               | Read/write bits and words, diagnostics in Modbus mode                                                                                                   | Transparent exchanges with CANopen slaves and Ethernet-based processors                                          |
| Conformity class             |                                              | M4 profile                                                                                     | –                                                                                                                                                       | EDS description files of the slaves                                                                              |
| Communication services       |                                              | –                                                                                              | –                                                                                                                                                       | Gateway DTM<br>FDR Service<br>SNMP agent<br>Syslog client                                                        |
| Compatibility with processor |                                              | Modicon M340, Modicon M580                                                                     |                                                                                                                                                         | Modicon M580 only                                                                                                |

|            |            |            |            |
|------------|------------|------------|------------|
| References | BMXEIA0100 | BMXNOM0200 | BMECXM0100 |
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(1) Only BMXNOM0200

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|                |                           |                           |
|----------------|---------------------------|---------------------------|
| Applications   | PROFIBUS communication    | Modbus Plus communication |
| Type of device | PROFIBUS DP master module | Modbus plus Proxy         |



| Network protocols            |                                              |  PROFIBUS DP |  Ethernet Modbus TCP |  Modbus Plus |
|------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Structure                    | Physical interface                           | RS-485                                                                                          | 10/100BASE-TX                                                                                           | RS-485                                                                                          |
|                              | Type of connector                            | 9-way SUB-D female                                                                              | 2 x RJ45                                                                                                | 2 x 9-way female SUB-D                                                                          |
|                              | Access method                                | Master/slave, Token passing                                                                     | CSMA/CD                                                                                                 | HDLC -Token passing                                                                             |
|                              | Data rate                                    | 9.6 kbit/s at 1200 m/3.937ft<br>12 Mbit/s at 100 m/328 ft                                       | 10/100 Mbps                                                                                             | 1 Mbps                                                                                          |
| Medium                       |                                              | Shielded twisted pair copper cable                                                              | Double shielded twisted pair copper cable, category CAT 5E (direct or crossover)                        | Shielded twisted pair copper cable                                                              |
| Configuration                | Maximum number of devices                    | 10 masters, 125 slaves                                                                          | 128                                                                                                     | 32 per segment<br>64 for all segments                                                           |
|                              | Maximum length                               | 1200m/3.937ft per segment                                                                       | 100 m/328 ft                                                                                            | 450 m/1.476 ft per segment<br>1,800 m/5.905 ft with 3 repeaters                                 |
|                              | Number of links of the same type per station | Up to 10 PMEPXM0100 modules in total with a Modicon M580 BMEP586040 processor                   | 1 max.                                                                                                  |                                                                                                 |
|                              |                                              |                                                                                                 |                                                                                                         |                                                                                                 |
| Standard services            |                                              | Cyclic data exchange (master class1)<br>Acyclic data exchange (master class2)                   | Modbus/TCP messaging                                                                                    | Modbus Plus messaging                                                                           |
| Conformity class             |                                              | PI International certified                                                                      |                                                                                                         |                                                                                                 |
| Communication services       |                                              | Gateway DTM<br>FDR Service<br>SNMP agent<br>Syslog client                                       | Modbus Plus server (scanned by the PLC)<br>FDR service<br>SNMP agent<br>-                               | Read/write variables<br>Global Data<br>Peer Cop service                                         |
| Compatibility with processor |                                              | Modicon M580 only                                                                               | Modicon M340, Modicon M580                                                                              |                                                                                                 |

|            |            |                |  |
|------------|------------|----------------|--|
| References | PMEPXM0100 | TCSEGDB23F24FA |  |
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