

Active Distributor ASi, IP67, M12, 4I/4O



2 x connectors for profile cable

Periphery connection via

1 x M12 cable socket, straight, 8 poles +
3 x M12 cable sockets, straight, 5 poles

For SEW MOVIMOT with binary control

Compatible to option MLK11A

Suitable for option with plug connector AVR1



(figure similar)



| Figure | Type | Number of Drives | Inputs digital | Outputs digital | Input voltage (sensor supply) (1) | Output voltage (actuator supply) (2) | ASi connection (3) | Connection (4) | ASi address (5) | Special function | Art. no. |
|--------|-------------------|------------------|----------------|-----------------|-------------------------------------|--------------------------------------|--------------------|---|-----------------|-----------------------------------|----------------|
| | IP67, depth 35 mm | 1 | 4 | 4 x electronic | I1 out of AUX, I2 ... I4 out of ASi | out of AUX | ASi profile cable | 1 x M12 cable socket, straight, 8 poles + 3 x M12 cable socket, straight, 5 poles | 1 single slave | for connecting SEW MOVIMOT to ASi | BWU3781 |

- (1) **Input voltage (sensor supply):** inputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, inputs shall not be connected to earth or to external potential.
- (2) **Output voltage (actuator supply):** outputs are supplied by ASi or by AUX (auxiliary 24 V power). If supplied by ASi, outputs shall not be connected to earth or to external potential
- (3) **ASi connection:** the connection to ASi as well to AUX (auxiliary 24 V power) is made via yellow resp. black ASi profile cable with piercing technology or via M12 socket (in IP20 via clamps).
- (4) **Connection:** further connection options are available on request.

| M12 cable socket, angled | M12 cable socket, straight | M8 cable socket, straight | round cable / connecting wires | Push in terminals |
|--------------------------|----------------------------|---------------------------|--------------------------------|-------------------|
| PUR line: oil resistant | | | | |
| | | | | |

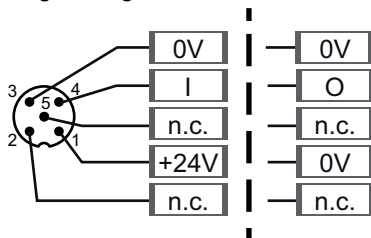
- (5) **ASi address:** 1 AB Slave (max. 62 AB Slaves/ASi network), 2 AB Slaves (max. 31 modules with 2 AB Slaves), Single Slaves (max. 31 Single Slaves/ASi network), mixed use allowed.
For modules with two slaves the second slave is turned off as long as the first slave is addressed to address "0".
Upon request, slaves are available with specific ASi Slave profiles.

| | | |
|--|--------------|---|
| Article No. | | BWU3781 |
| General data | | |
| Device type | | input/output |
| Connection | | |
| ASi/AUX connection | | profile cable and piercing |
| Periphery connection | | 1 x M12 cable socket, straight, 8 poles + 3 x M12 cable sockets, straight, 5 poles |
| M12 wiring ⁽¹⁾ | | single wiring (I2 ... I4) |
| Length of connector cable | | 1 m (I1, O1 ... O4), 0,3 m (I2 ... I4) max. allowed tensile strain 10 N |
| ASi | | |
| Profile | | S-7.0.E (ID1=F default) |
| Address | | 1 single slave |
| Required Master profile | | ≥M0 |
| As of ASi specification | | 2 |
| Operating voltage | | 30 V _{DC} (18 ... 31.6 V) |
| Max. current consumption | | 165 mA |
| Max. current consumption without sensor/ actuator supply | | 45 mA |
| AUX | | |
| Operating voltage | | 24 V _{DC} (18 ... 30 V) |
| Max. current consumption | | 3 A |
| Input | | |
| Number | | 4 |
| Power supply | | I1 out of AUX, I2 ... I4 out of ASi |
| Power supply of attached sensors | up to +40 °C | I2 ... I4 out of ASi: 120 mA ⁽²⁾ |
| | at +55 °C | I2 ... I4 out of ASi: 80 mA ⁽²⁾ |
| | at +60 °C | I2 ... I4 out of ASi: 60 mA ⁽²⁾ |
| Switching threshold | | U < 5 V (low) U > 15 V (high) |
| Output | | |
| Number | | 4 |
| Power supply | | out of AUX |
| Output | | short-circuit and overload protected according to EN 61131-2 |
| Max. output current | up to +40 °C | 1 A per output, $\sum (\text{Out}) \leq 3 \text{ A}^{(3)}$ |
| | at +55 °C | 1 A per output, $\sum (\text{Out}) \leq 2 \text{ A}^{(3)}$ |
| | at +60 °C | 1 A per output, $\sum (\text{Out}) \leq 1,5 \text{ A}^{(3)}$ |
| Safe disconnection of output voltage | | yes up to PLe |
| Display | | |
| LED ASi (red/green) | | green: ASi voltage on, slave online red: ASi voltage on, but slave offline yellow/red flashing: address 0 red/green flashing: peripheral fault ⁽⁴⁾ off: no ASi voltage |
| LED AUX (green) | | on: 24 V _{DC} AUX off: no 24 V _{DC} AUX |
| LED I1 ... In (yellow) | | state of inputs I1 ... I4 |
| LED O1 ... On (yellow) | | state of outputs O1 ... O4 |

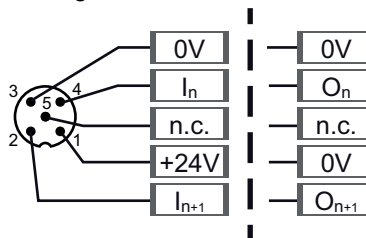
| | |
|--|---|
| Article No. | BWU3781 |
| Environment | |
| Applied standards | EN ISO 13849-1 PLe EN ISO13849-2 EN 62026-2 EN 61000-6-2 EN 61000-6-3 EN 61131-2 EN 60529 |
| Passive safety (up to PLe/SIL 3) | yes ⁽⁵⁾ |
| Operating altitude | max. 2000 m |
| Ambient temperature | -30 °C ... +60 °C ^{(2) (3) (6)} |
| Storage temperature | -25 °C ... +85 °C |
| Housing | plastic, screw mounting, suitable for cable ducts (installation depth ≥35mm) |
| Pollution Degree | 2 |
| Protection category | IP67 |
| Tolerable loading referring to humidity | according to EN 61131-2 |
| Maximum tolerable shock and vibration stress | ≤15g, T≤11 ms 10 ... 55 Hz, 0,5 mm amplitude |
| Insulation voltage | ≥500 V |
| Weight | 100 g |
| Dimensions (W / H / D) in mm | 60 / 45 / 35 |

(1) **M12 wiring:** either as a single-wiring, Y-wiring or mixed-wiring.

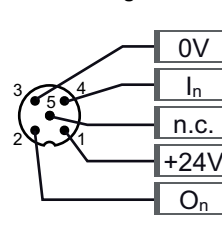
Single-wiring



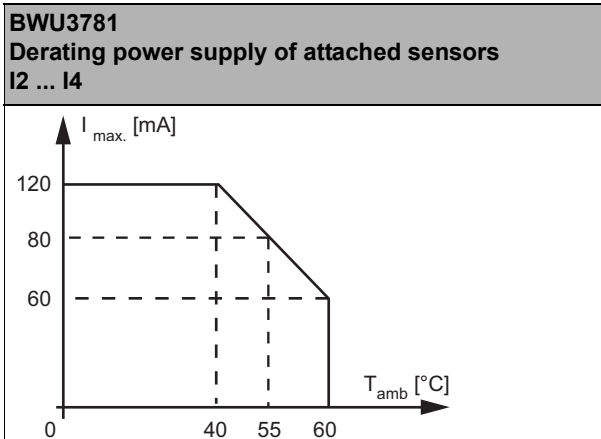
Y-wiring

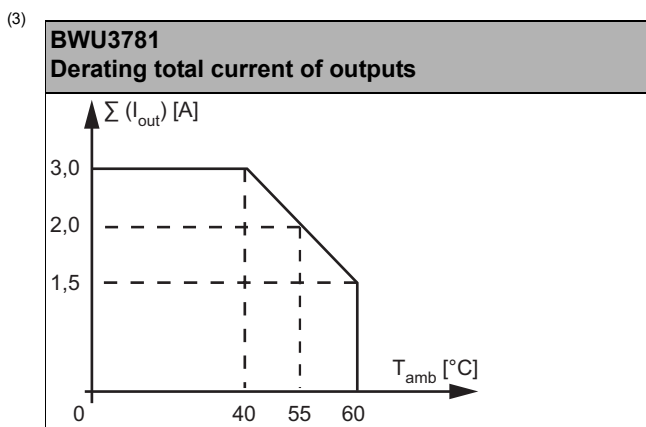


Mixed-wiring



(2)





- (4) see table "Peripheral fault indication"
- (5) Exclusion of errors for the connection of the two ASi and AUX potentials can be assumed in the module. Passive safety for the application can only be achieved if this is ensured for all components used.
- (6) Down to -25 °C with flexibly mounted cable, -30 °C only with fixed mounted cable.

| Article no. | Peripheral fault indication | | |
|-------------|-----------------------------|------------------------|---------------------|
| | Overload sensor supply | Output short circuited | AUX voltage missing |
| BWU3781 | • | - | • |

| Programming | Parameter bit | | | |
|-------------|------------------------------|---|--|--------------|
| | D0 | D1 | D2 | D3 |
| | input | | | |
| BWU3781 | I1 | I2 | I3 | I4 |
| | output | | | |
| BWU3781 | O1 (R) | O2 (L) | O3 (f1/f2) | O4 (24 V) |
| | parameter bit | | | |
| | P0 | P1 | P2 | P3 |
| BWU3781 | 0= off / 1= on (Watchdog) | 0= off / 1= on (peripheral fault, if AUX missing) | 0= on / 1= off (synchronous I/O mode) | not used |

Pin assignment

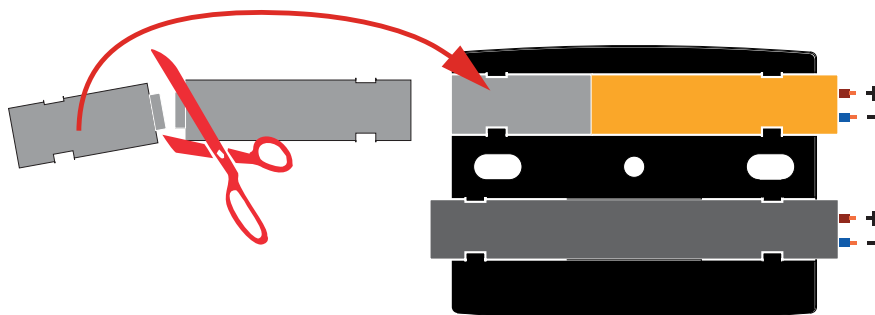
| Signal name | Explanation |
|---------------------------|---|
| I _x | digital input x |
| O _x | digital output x |
| 24V _{ext out} | power supply, out of external voltage, positive pole (AUX, actuator supply) |
| 0V _{ext out} | power supply, out of external voltage, negative pole (AUX, actuator supply) |
| 24V _{out of ASi} | power supply, out of ASi, positive pole (sensor supply) |
| 0V _{out of ASi} | power supply, out of ASi, negative pole (sensor supply) |
| ASi +, ASi - | connection to ASi bus |
| n.c. (not connected) | not connected |

| Connections: | | | | | | | | | | |
|--------------|--------------|-----------------|-----------|----------------|-----------|------------|-----------|-------------|-----------|--|
| Article no. | M12, 8 poles | Pin1 (WH) | Pin2 (BN) | Pin3 (GN) | Pin4 (YE) | Pin5 (GY) | Pin6 (PK) | Pin7 (BU) | Pin8 (RD) | |
| BWU3781 | X1 | I1 (K1b) | O4 (24 V) | O1 (R) | O2 (L) | O3 (f1/f2) | n.c (K1a) | 0 V ext out | n.c. | |
| | M12, 5 poles | Pin1 (BN) | Pin2 (WH) | Pin3 (BU) | Pin4 (BK) | Pin5 (--) | | | | |
| | X2 | 24 V out of ASi | n.c. | 0 V out of ASi | I4 | n.c. | | - | | |
| | X3 | 24 V out of ASi | n.c. | 0 V out of ASi | I3 | n.c. | | - | | |
| | X4 | 24 V out of ASi | n.c. | 0 V out of ASi | I2 | n.c. | | - | | |

Line termination with sealing profile



max. IP54



Accessories:

- Sealing profile IP67 (IDC plug), 60 mm (art. no. BW3282)
- ASi addressing cable with M12 connector, connecting cable for handheld ASi address programming devices for the addressing of active distributors (art. no. BW3304)
- ASi addressing cable with COMBICON connector, Connecting cable for ASi Master/Gateways for the addressing of active distributors (art. no. BW3305)