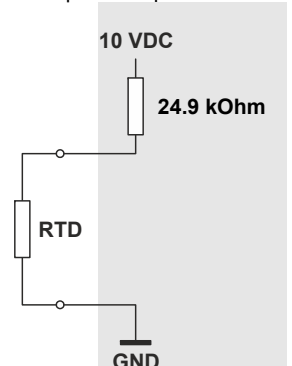
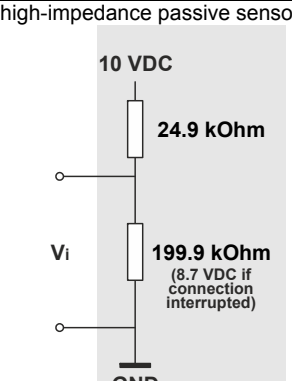
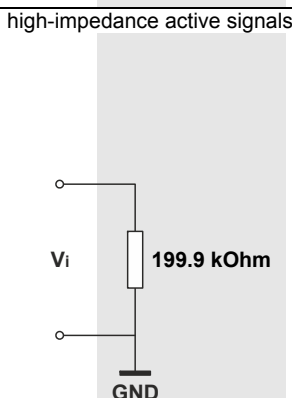


Excel 800 / Excel Web II

CABLE SPECIFICATIONS

HONEYWELL EXCEL 5000 OPEN SYSTEM

PRODUCT INFORMATION

Excel 800 I/O module	signal type	signal level	type of connected device, e.g.	min. no. of wires	min. cross-section	cable spec.	max. cable length at min. cross-section	note									
<p>Analog Input XF821A, XF821AU XFL821A, XFL821AU</p> <p>+ push-in terminal socket XS821-22 or + screw terminal socket XSU821-22</p> <p>cable cross-section: 0.25 ... 1.50 mm²</p>	<p>low-impedance passive sensor</p> 	sensor resistance	<ul style="list-style-type: none"> PT1000-1 PT1000-2 PT3000 BALCO500 NI1000TK5000 Slow binary input 	2	0,5 mm ²	J-Y(St)Y	400 m	shielded									
	<p>high-impedance passive sensor</p> 	sensor resistance	<ul style="list-style-type: none"> NTC20K NTC10K 	2	0,5 mm ²	J-Y(St)Y	400 m	shielded									
	<p>high-impedance active signals</p> 	<p>0(2)...10 VDC or 0(4)...20 mA via external 499 Ω resistor</p>	<ul style="list-style-type: none"> T7560A1026 T7560C1006 AQS51-KAM C7110D1009 SAF25 	2 + 1	<table border="1"> <tr> <td>1.0 mm²</td> <td>LiYCY or J-Y(St)Y</td> <td>70 m</td> </tr> <tr> <td>1.5 mm²</td> <td>LiYCY or J-Y(St)Y</td> <td>100 m</td> </tr> <tr> <td>2.5 mm²</td> <td>LiYCY or J-Y(St)Y</td> <td>170 m</td> </tr> <tr> <td>0.5 mm² (only with 24VAC via NYM or J-Y(ST)Y)</td> <td>LiYCY or J-Y(St)Y</td> <td>400 m</td> </tr> </table>	1.0 mm ²	LiYCY or J-Y(St)Y	70 m	1.5 mm ²	LiYCY or J-Y(St)Y	100 m	2.5 mm ²	LiYCY or J-Y(St)Y	170 m	0.5 mm ² (only with 24VAC via NYM or J-Y(ST)Y)	LiYCY or J-Y(St)Y	400 m
1.0 mm ²	LiYCY or J-Y(St)Y	70 m															
1.5 mm ²	LiYCY or J-Y(St)Y	100 m															
2.5 mm ²	LiYCY or J-Y(St)Y	170 m															
0.5 mm ² (only with 24VAC via NYM or J-Y(ST)Y)	LiYCY or J-Y(St)Y	400 m															

Excel 800 I/O module	signal type	signal level	type of connected device, e.g.	min. no. of wires	min. cross-section	cable spec.	max. cable length at min. cross-section	note
Analog Output XF822A, XF822AU XFR822A, XFR822AU XFL822A, XFL822AU XFLR822A, XFLR822AU + push-in terminal socket XS821-22 or + screw terminal socket XSU821-22 cable cross-section: 0.25 ... 1.50 mm ²	0(2)...10 VDC / ±1 mA 0 VDC / 10 VDC if configured as binary output	0(2)...10 VDC	M7410E1002 ML7420/21	2 + 1	1.0 mm ²	LiYCY or J-Y(St)Y	70 m	3 rd wire for 24 VAC power supply of active sensor; control signal shielded
					1.5 mm ²	LiYCY or J-Y(St)Y	100 m	
					2.5 mm ²	LiYCY or J-Y(St)Y	170 m	
					0.5 mm ² (only with 24VAC via NYM or J-Y(ST)Y)	LiYCY or J-Y(St)Y	400 m	
Binary Input XF823A, XF823AU XFL823A, XFL823AU + push-in terminal socket XS823 or + screw terminal socket XSU823 cable cross-section: 0.25 ... 1.50 mm ²	dry contact input	open contact voltage 16...22 VDC, max 2 mA current for closed contact	dry contact, e.g., end position from actuator	2	0.5 mm ²	H05V-K or similar	20 m	Inside cabinets; follow EMC guidelines
	totalizer	max. 20Hz pulse on: min. 25 ms pulse off: min. 25 ms bounce: max. 5ms	totalizer with open collector output			J-Y(St)Y shielded	400 m	
Relay Output XF824A, XF824AU XFR824A, XFR824AU XFR825A, XFR825AU XFL824A, XFL824AU XFLR824A, XFLR824AU + push-in terminal socket XS824-25 or + screw terminal socket XSU824-25 cable cross-section: 0.25 ... 1.50 mm ²	relay contact XFR825 models use 2 relays to control a floating actuator	230 VAC	pump, fan, MT4-230 M6410L, ML6420A	2 3 for floating actuator	Calculate depending on required current (≤ max relay current) according to DIN57100 part 523 or local guidelines.			--
	Per NO contact: 19...250 VAC current at cos φ ≥ 0.6: 4 A 1...29 VDC 4 A resistive, 1 A inductive, min. load 50 mW Per NC contact: 19...250 VAC current at cos φ ≥ 0.95: 2 A, current at cos φ ≥ 0.6: 1 A 1...29 VDC 4 A resistive, 1 A inductive, min. load 50 mW Total per module: 19...250 VAC current at cos φ ≥ 0.6: 12 A 1...29 VDC 12 A resistive, 3 A inductive	24VAC	MT4-024 M7410C, ML6425A, M6061A	2 3 for floating actuator	1.5 mm ² , 2.5 mm ²	H05V-K or J-Y(St)Y shielded or NYM or NYM-J	100 m (1.5 mm ²) or 170 m (2.5 mm ²)	cable specification dependent on use (inside the cabinet, field wiring) and necessary voltage (24V/230V)

EXCEL 800 / EXCEL WEB II CABLE SPECIFICATIONS – PRODUCT INFORMATION

Excel 800 I/O module	signal type	signal level	type of connected device, e.g.	min. no. of wires	min. cross-section	cable spec.	max. cable length at min. cross-section	note
Transformer CRT2, CRT6 or CRT12 EMEA: compliant to IEC61558-2-6	primary power	230VAC	line voltage	2	1.5 mm ²	H05V-K	--	DIN57100 part 523
	secondary power	24 VAC	XCL8010A	2	1.0 mm ²	LiYCY	2 m	as short as possible
			field device	2 + 2	1.5 mm ²	J-Y(St)Y 3x2x0.8	100 m	use one twisted pair to connect an analog output and the other 2 pairs for the power supply
C-Bus	Communication ≤ 19200 baud	± 5 VDC	controller, e.g., XCL8010A	2	0.5 mm ²	indoor: J-Y(St)Y 2x2x0.8 outdoor: A-2Y(L)2Y 2x2x0.8	1200 m	shielded twisted pair
	Communication > 19200 baud	± 5 VDC	controller, e.g., XCL8010A	2	0.5 mm ²	Belden 9841	1200 m	shielded twisted pair
LONWORKS	daisy chain wiring	± 5 VDC	LON I/O module, XL10 room controller, XCL8010A	2	0.5 mm ²	J-Y(St)Y 2x2x0.8 or Belden 8471	900 m or 2700 m	use 1 termination XAL-Term on each end of the wiring
	free topology wiring	± 5 VDC	LON I/O module, XL10 room controller, XCL8010A	2	0.5 mm ²	J-Y(St)Y 2x2x0.8 or Belden 8471	500 m; max. 320 m (400 m for Belden 8471) between any 2 devices	connect 1 termination XAL-Term
Panel Bus	communication	± 5 VDC	Panel I/O module	2	0.75 mm ²	J-Y-Y 2x2x0.8	max. 40m	use one twisted pair for communication and the other for power supply
	power supply	24 VAC	Panel I/O module	2	0.75 mm ²		3 m	

EIA 485 CABLE SPECIFICATIONS

The following cable specification is valid for all EIA 485 buses, e.g., Panel Bus and (Excel Web II, only) BACnet MS/TP.

Table 1. EIA 485 cable specifications

max. length	Excel Web II: Panel Bus 40-800 m BACnet MS/TP (depending upon baud rate) 800-1200 m Excel 800: 40 m
cable type	twisted pair, shielded (foil or braided shields are acceptable)
characteristic impedance	100...130 Ω
distributed capacitance between conductors	Less than 100 pF per meter (30 pF per foot)
distributed capacitance betw. conductors and shield	Less than 200 pF per meter (60 pF per foot)

The following cables fulfill this requirement:

- AWG 18;
- J-Y-(St)-Y 2 x 2 x 0,8;
- CAT 5,6,7 cable (use only one single pair for one bus);
- Belden 9842 or 9842NH.

Excel Web II Panel Bus Considerations

- **RS485-1 (isolated)**
 - Max. Panel Bus length:
 - 40 meters. Any type of cabling and topology (including star topology) possible. No additional end termination permitted.
 - 800 meters. Mandatory twisted-pair or telephone cable and daisy chain topology. The Excel Web II Controller must be positioned at one end of the Panel Bus, and an end termination (120 Ω) at the other end. Further, the three-position slide switch must be set to "END."
- **RS485-2 (non-isolated)**
 - Max. Panel Bus length:
 - 40 meters. Any type of cabling and topology (including star topology) possible. No additional end termination permitted.
 - 800 meters. Mandatory twisted-pair or telephone cable and daisy chain topology. The Excel Web II Controller must be positioned at one end of the Panel Bus, and an end termination (120 Ω) at the other end.
 - Must not extend beyond a single building or building floor.

Excel Web II BACnet MS/TP Bus Considerations

- **RS485-1 (isolated)**
 - Max. BACnet MS/TP bus length: 800-1200 meters, depending on baud rate - see Excel Web II – Installation & Commissioning Instructions (Product Literature No.: EN1B-0555GE51) for details.
 - Mandatory shielded, twisted-pair cable.
 - Must conform to EIA-RS485 cabling guidelines.
- **RS485-2 (non-isolated)**
 - Max. BACnet MS/TP bus length: 800-1200 meters, depending on baud rate - see Excel Web II – Installation & Commissioning Instructions (Product Literature No.: EN1B-0555GE51) for details.
 - Mandatory shielded, twisted-pair cable.
 - Ground noise should not exceed the EIA-485 common mode voltage limit.
 - Must conform to EIA-RS485 cabling guidelines.
 - Should not extend beyond a single building.

Honeywell

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