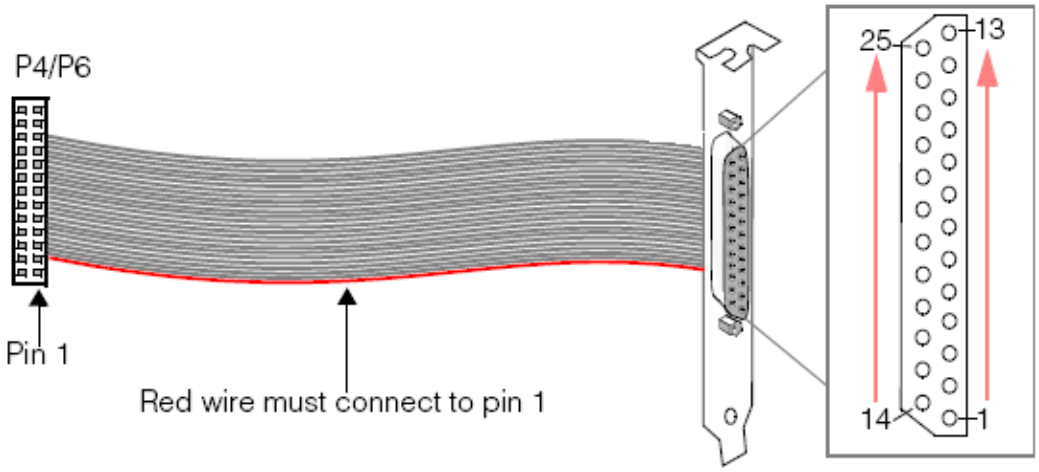
VisionPro 8600 I/O Kit
CIO-8600-GPIO

Programmable I/O Lines

Other devices such as sensors, LEDs, switches, and controllers can be managed and controlled by the MVS-8600 and MVS-8600e under the direction of your vision processing application. Connect such devices to the programmable opto-isolated input or output lines that originate on board connectors P4 or P6. To bring the P4/P6 signals to the PC's back panel, connect the I/O extension cable (Cognex part number 300-0240) to P4, or P6, or both.

Note Unlike the Hirose HR10 connector, which exposes a subset of the I/O lines, the P4 and P6 connectors expose *all* available I/O lines on the MVS-8600 and MVS-8600e.
The other end of the I/O extension cable replaces an empty slot cover on the host PC's back panel. As an alternative, you can remove the DB-25 connector from the cable's panel plate and mount it into a knock-out on the back the PC.

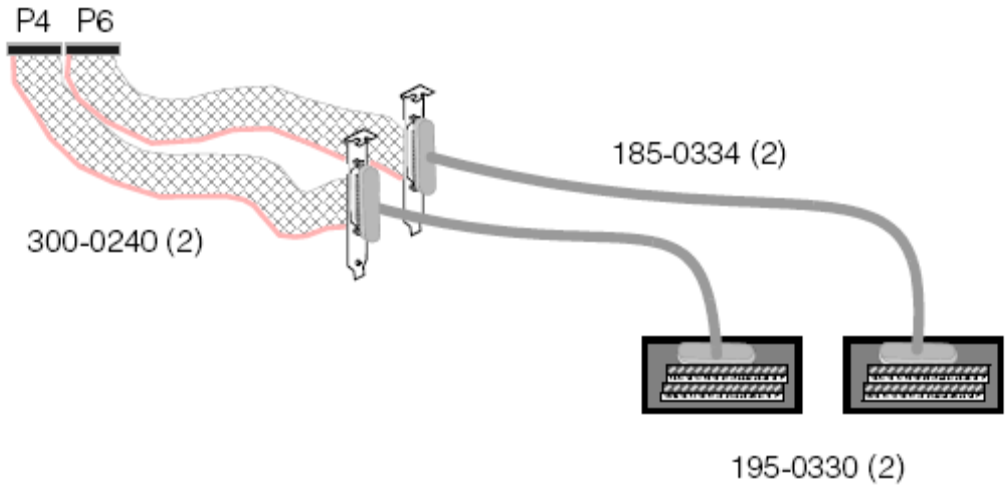


I/O extension cable, Cognex part number 300-0240

Note
Make sure that the red wire on the I/O extension cable is connected to pin 1 of the P4 or P6 connector. The location of pin 1 is shown in Figure 13 on page 46 (MVS-8600) and Figure 14 on page 47 (MVS-8600e).

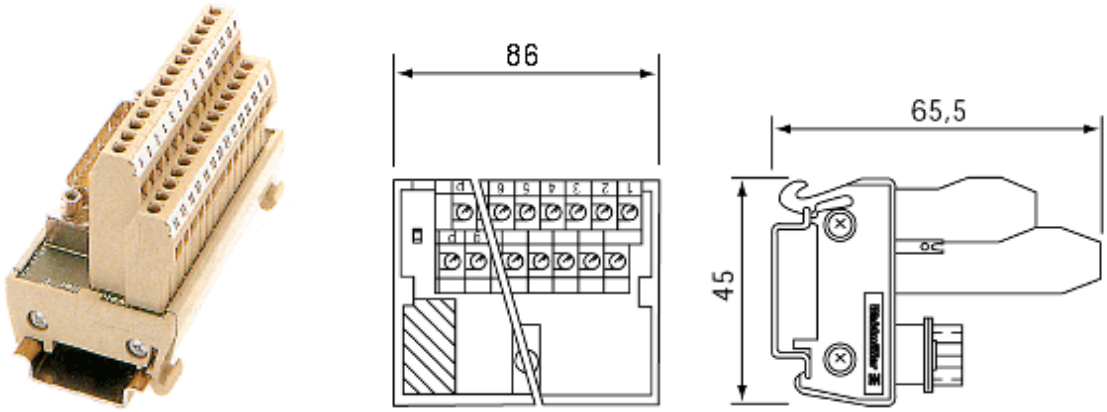
For your convenience, Cognex provides the *General-Purpose I/O Kit*, which includes two 300-2040 I/O extension cables with faceplates, two DB-25 extension cables, and two 25-pin terminal blocks.

General-Purpose I/O Kit Components



The 195-0330 terminal block terminals correspond exactly to the DB-25 pin numbers on the 300-0240 faceplate; terminal 1 on the terminal block connects to pin one on the DB-25, terminal 2 to pin 2, and so on.

195-0330 Terminal block



DIMENSIONS	
Length	**45 mm**
Height	**65.5 mm**
Width	**86 mm**

Programmable Input Lines

To connect I/O devices to one or more programmable input lines, first connect an I/O extension cable (part number 300-0240), and optionally a DB-25 extension cable (185-0334) and terminal block (195-0330), to the frame grabber's P4 and/or P6connector.

Use Table to determine the pins to use on the 300-0240 cable's DB-25 connector or on the 195-0330 terminal block.

Opto-isolated inputs on P4 and P6 share the anode (+) pin between two lines. See *Programmable Line Input Circuitry* on page 69 for a wiring diagram for this connection type.

Signal Name	P4 Pin (DB-25 and terminal block)	P6 Pin (DB-25 and terminal block)	Notes
OPTO_IN_0_1+	3		Not available with I/O option 3
OPTO_IN_0–	4		
OPTO_IN_1–	5		
OPTO_IN_2_3+	11		
OPTO_IN_2–	12		
OPTO_IN_3–	13		
OPTO_IN_4_5+		3	
OPTO_IN_4–		4	
OPTO_IN_5–		5	
OPTO_IN_6_7+		11	
OPTO_IN_6–		12	
OPTO_IN_7–		13	

Programmable Output Lines

To connect I/O devices to one or more programmable output lines, first connect an I/O extension cable (part number 300-0240), and optionally a DB-25 extension cable (185-0334) and terminal block (195-0330), to the frame grabber's P4 and/or P6 connector. Use Table to determine the pins to use on the 300-0240 cable's DB-25 connector or on the 195-0330 terminal block.

Signal Name	P4 Pin (DB-25 and terminal block)	P6 Pin (DB-25 and terminal block)	Notes
OPTO_OUT_0–	16		Not available with I/O option 3
OPTO_OUT_0+	15		
OPTO_OUT_1–	2		
OPTO_OUT_1+	1		
OPTO_OUT_2–	10		
OPTO_OUT_2+	9		
OPTO_OUT_3–	23		
OPTO_OUT_3+	22		
OPTO_OUT_4–		16	
OPTO_OUT_4+		15	
OPTO_OUT_5–		2	
OPTO_OUT_5+		1	
OPTO_OUT_6–		10	
OPTO_OUT_6+		9	
OPTO_OUT_7–		23	
OPTO_OUT_7+		22	
TAP24V_0-3	14		
TAP24V_4-7		14	
GND	17		
GND	19		
GND	21		
GND		17	
GND		19	
GND		21	

You must supply 5 to 24 V input power to the appropriate TAP24V line. Use an external power source to take maximum advantage of the opto-isolation circuitry's signal isolation.
Connect the device's + wire to the OPTO_OUT_*n*+ line. Connect the external power supply's ground terminal to the OPTO_OUT_*n*– line. The programmable opto-isolated output circuitry is further described in *Programmable Line Output Circuitry* on page 70 of 8600 Hardware Manual.