

7.6 DI695

7.6.1 General Information

The DI695 is a standard digital input module.

7.6.2 Order Data

Model Number	Short Description	Figure
3DI695.6	2005 digital input module, 16 inputs 120/230 VAC, 50 ms, 2 electrically isolated input groups, Order TB170 terminal block separately.	
3TB170.9	2005 terminal block, 20-pin, screw clamps	
3TB170.91	2005 terminal block, 20-pin, cage clamps	
3TB170.90-02	2005 terminal block, 20-pin, 20 pcs., screw clamps	
3TB170.91-02	2005 terminal block, 20-pin, 20 pcs., cage clamps	
Terminal blocks not included in the delivery (see "Accessories").		

Table 117: DI695 order data

7.6.3 Technical Data

Product ID	DI695
General Information	
C-UL-US Listed	Yes
B&R ID Code	\$B2
Can be Installed on	
Main Rack	Yes
Expansion Rack	Yes

Table 118: DI695 technical data

Product ID	DI695
Static Characteristics	
Module Type	B&R 2005 I/O module
Number of Inputs	16
Maximum Peak Voltage	264 VAC
Rated Voltage	120 / 230 VAC
Rated Frequency	50 / 60 Hz
Connections (Sink/Source)	--- (AC input module)
Limit Values 0-Signal UL 0-Signal IL 1-Signal UH 1-Signal IH	Max. 40 VAC Max. 15 mA Min. 79 VAC Min. 2 mA
Delay 0 to 1	Max. 50 ms
Delay 1 to 0	Max. 50 ms
Power Consumption Internal 5 V 24 V Total external	Max. 1.5 W --- Max. 1.5 W Max. 4 W
Additional Characteristics	
Status Displays for Inputs	1 green LED per channel
Operating Characteristics	
Consequences of Incorrect Input Connections	No effects on the module
Isolation Voltage under Normal Operating Conditions between Channel and Bus Group 1 - Group 2	2500 VAC 500 VAC
Tapping Point and Binary Status of Visual Displays	PLC in logic part
Consequences of Removing/Inserting Input Modules with Voltage Applied	No effects on the module
Additional Exterior Load when Inputs and Outputs are Switched Together (if required)	Additional load depending on leakage current for the corresponding outputs
Explanation of Signal Evaluation	AC voltage travels to the optocoupler via an RC combination. Evaluation is carried out every second with a comparator using a filter circuit. Further signal processing in the digital section.
Typical Example for External Connections	COM connection to neutral, input to switch phase
Different Circuits Possible	Yes (but not different phases)
Mechanical characteristics	
Dimensions	B&R 2005 single-width
Terminal Layout	See Section 7.6.5 "Pin Assignments", on page 236

Table 118: DI695 technical data (cont.)

7.6.4 Status LEDs

Figure	LED	Description
	1 - 16	The status LEDs indicate the logical status of the corresponding inputs. The LED is lit when the input is log. 1, i.e. when the current flows through the optocoupler.

Table 119: DI695 status LEDs

7.6.5 Pin Assignments

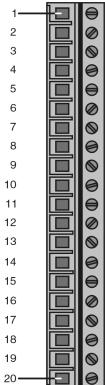
 TB170	Connection	Assignment	
	1	---	Group 1
	2	Input 1	
	3	Input 2	
	4	Input 3	
	5	Input 4	
	6	Input 5	
	7	Input 6	
	8	Input 7	
	9	Input 8	Group 2
	10	COM (1-8)	
	11	COM (9-16)	
	12	Input 9	
	13	Input 10	
	14	Input 11	
	15	Input 12	
	16	Input 13	
	17	Input 14	
	18	Input 15	
	19	Input 16	
	20	---	

Table 120: DI695 pin assignment



The connections COM (1 - 8) and COM (9 - 16) are not permitted to be used with the different phases (L1, L2, L3).

7.6.6 Input Circuit Diagram

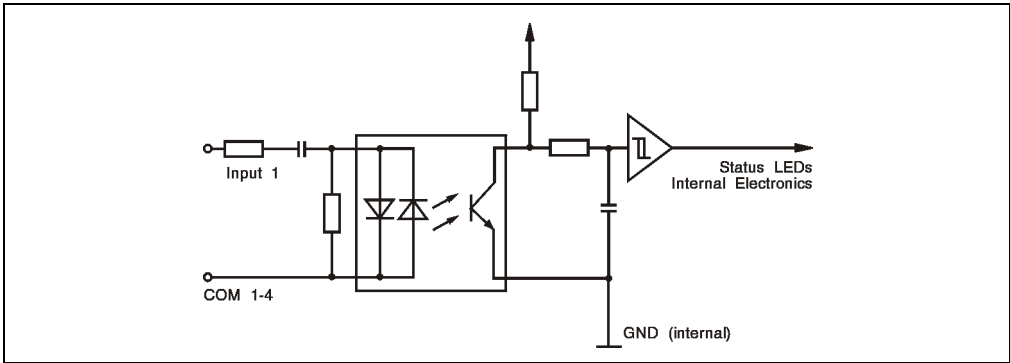


Figure 95: DI695 input circuit diagram

7.6.7 Variable Declarations

The variable declaration is made in B&R Automation Studio™:

Function	Variable Declarations				
	Scope	Data Type	Length	Module Type	Chan.
Read single digital input (channel x)	tc_global	BOOL	1	Digit. In	1 ... 16

Table 121: DI695 variable declaration