7.5 DI486

7.5.1 General Information

The DI486 is a standard digital input module. It offers very high component density using standard 3.5 mm terminal blocks.

7.5.2 Order Data

Model Number	Short Description	Figure
3DI486.6	2005 digital input module, 32 inputs 24 VDC, 1 ms, sink/source, 2 electrically isolated input groups. Order 2 x TB718 terminal blocks separately!	
7TB718.9	Accessory terminal block, 18-pin, screw clamp, 1.5 mm²	
7TB718.91	Accessory terminal block, 18-pin, cage clamp, 1.5 mm²	
7TB718:90-02	Accessory terminal block, 18-pin, 20 pieces, screw clamp, 1.5 mm²	
7TB718:91-02	Accessory terminal block, 18-pin , 20 pieces, cage clamp, 1.5 mm²	
Terminal blocks are not included in the delivery (see "General Accessories").		

Table 111: DI486 order data

7.5.3 Technical Data

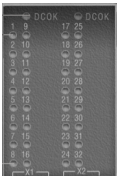| Product ID	DI486
C-UL-US Listed	Yes
B&R ID Code	$09

Number of Inputs
    Total
    in 2 Groups of
	
	32
	16

Electrical Isolation
    Input - PLC
    Group - Group
    Input - Input (same group)
	
	Yes (optocoupler)
	Yes (optocoupler)
	No

Wiring	Sink or source

Input Voltage
    Nominal
    Maximum
	
	24 VDC
	30 VDC

Input Resistance	6 kΩ

Switching Threshold
    LOW Range
    Switching Range
    HIGH Range
	
	< 5 V
	5 to 15 V
	> 15 V

Input Delay
    Typical
    Maximum
	
	0.5 ms
	1 ms

Input Current at Nominal Voltage	Approx. 4 mA
Maximum Peak Voltage	500 V for 50 μs max. every 100 ms

Power Consumption
    5 V
    24 V
    Total
	
	Max. 1.2 W
	--- 	
	Max. 1.2 W

Dimensions	B&R 2005 single-width

Table 112: DI486 technical data

7.5.4 Status LEDs

Figure	LED	Description
	DCOK	The DCOK LED is controlled by the respective input supply and is lit if the supply voltage is over +18 VDC.
	1 - 32	Input state of the corresponding digital inputs.

Table 113: DI486 status LEDs

7.5.5 Connection Elements

Two 18-pin terminal blocks are located next to each other in the lower part of the housing so that all signals can be connected using terminal blocks.

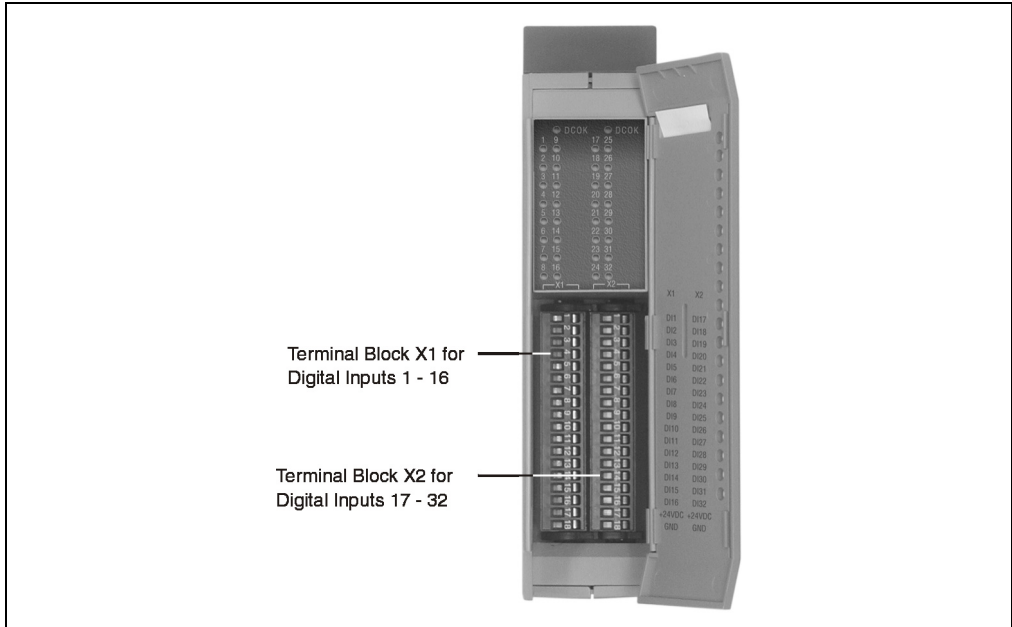The TB718 terminal blocks are available with screw and cage clamps.

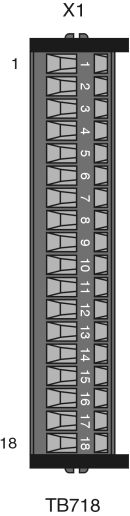Figure 93: DI486 Connection Elements

7.5.6 Pin Assignments

Left 18-pin Terminal Block	Connection	Assignment	Group
X1	1	Input 1	1
	2	Input 2	
	3	Input 3	
	4	Input 4	
	5	Input 5	
	6	Input 6	
	7	Input 7	
	8	Input 8	
	9	Input 9	
	10	Input 10	
	11	Input 11	
	12	Input 12	
	13	Input 13	
	14	Input 14	
	15	Input 15	
	16	Input 16	
TB718	17	COMs (+24 VDC in sink operation)	
	18	COM (GND in sink operation)	

Table 114: DI486 pin assignment for terminal block X1

Right 18-pin Terminal Block	Connection	Assignment	Group
	1	Input 17	2
	2	Input 18	
	3	Input 19	
X2	4	Input 20	
	5	Input 21	
	6	Input 22	
	7	Input 23	
	8	Input 24	
	9	Input 25	
	10	Input 26	
	11	Input 27	
	12	Input 28	
	13	Input 29	
	14	Input 30	
	15	Input 31	
	16	Input 32	
	17	COMs (+24 VDC in sink operation)	
TB718	18	COM (GND in sink operation)	

Table 115: DI486 pin assignment for terminal block X2
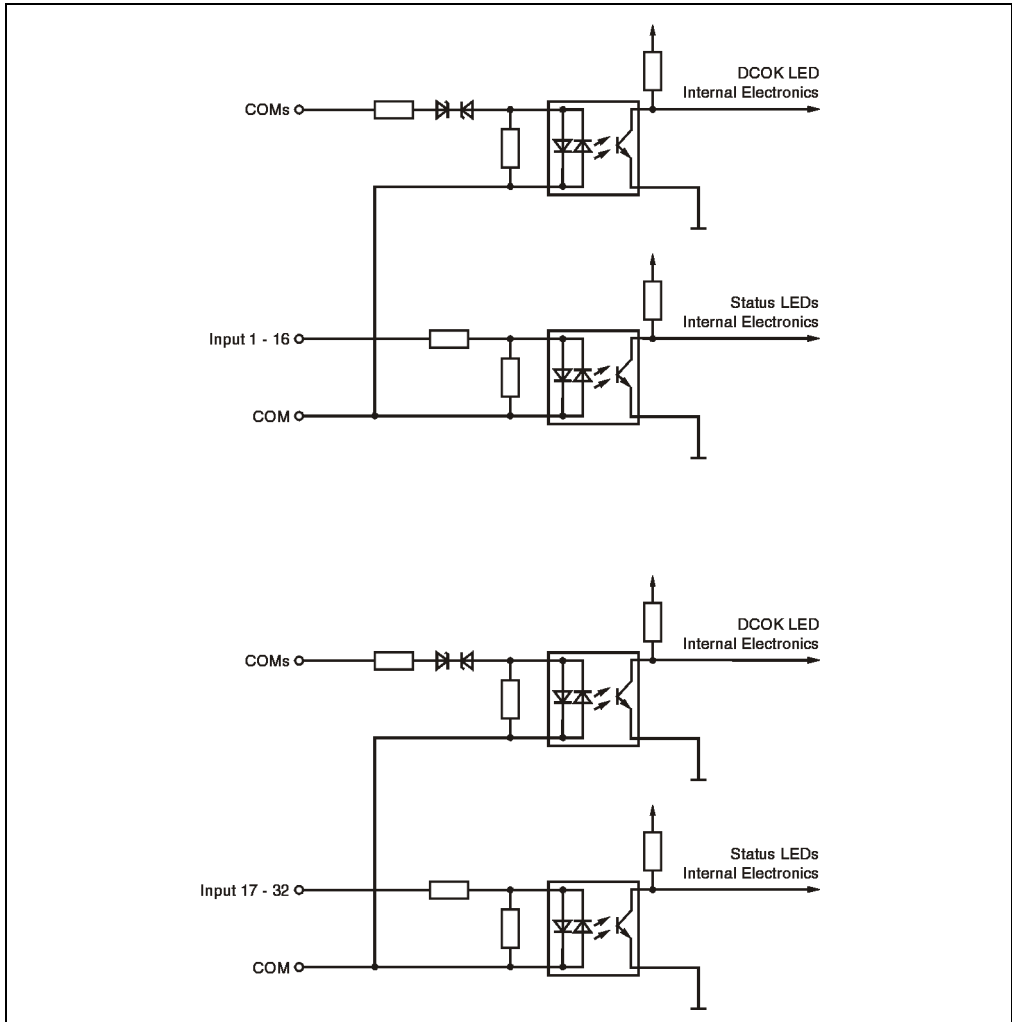
7.5.7 Input Circuit Diagram

Figure 94: DI486 input circuit diagram

7.5.8 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 ... 32
Status Register	tc_global	USINT	1	Status In	0

Table 116: DI486 variable declaration

Status Register

Status Register	Bit	Description
	7	DCOK - Supply voltage in the valid range
	6	x
	5	x
	4	x
	3	x
	2	x
	1	x
	0	x

x x x x x x x x
7   0

DCOK   0......No supply voltage or supply voltage too low for digital inputs
            1...... Supply voltage in the valid range