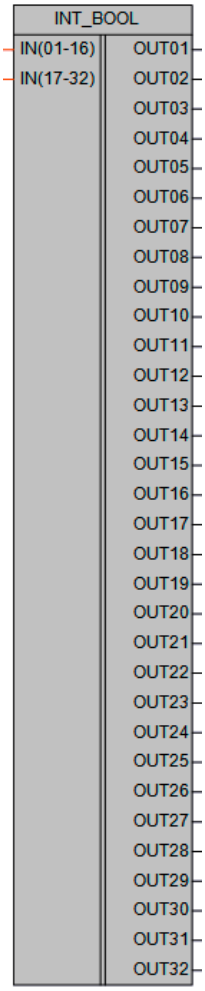
Discrete input to integer converter INT_BOOL



Input	Data type	Description	Area
IN(01-16)	INT	Integer	0…65535
IN(17-32)	INT	Integer	0…65535
Output	**Data type**	**Description**	**Area**
OUT01-OUT32	BOOL	Discrete outputs	0/1

Function

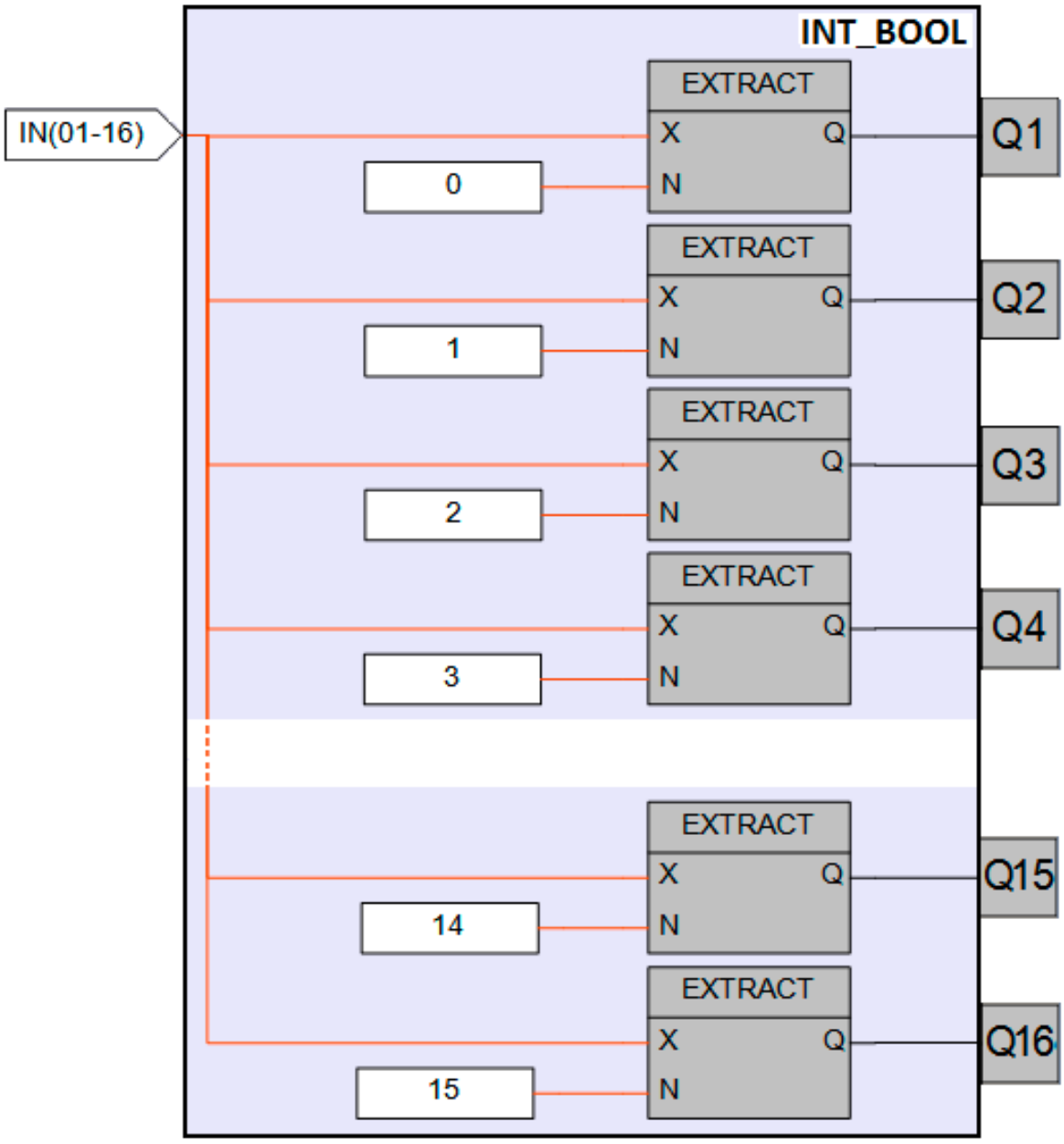
The INT_BOOL macro is designed to convert an integer to discrete outputs. The output is set to "1" at the points at which there is "1" when converting an integer into binary system. It can be used with variables in the project as well as with network variables. For the reconversion the macro "BOOL_INT" should be used.

The input "IN (01-16)" accepts an integer in the range from 0 to 65535, the outputs from "OUT01" to "OUT16" are used, i.e. 16 bits, in the same way the inputs "IN (17-32)", the outputs from "OUT17" to "OUT32" are activated.

Remarks

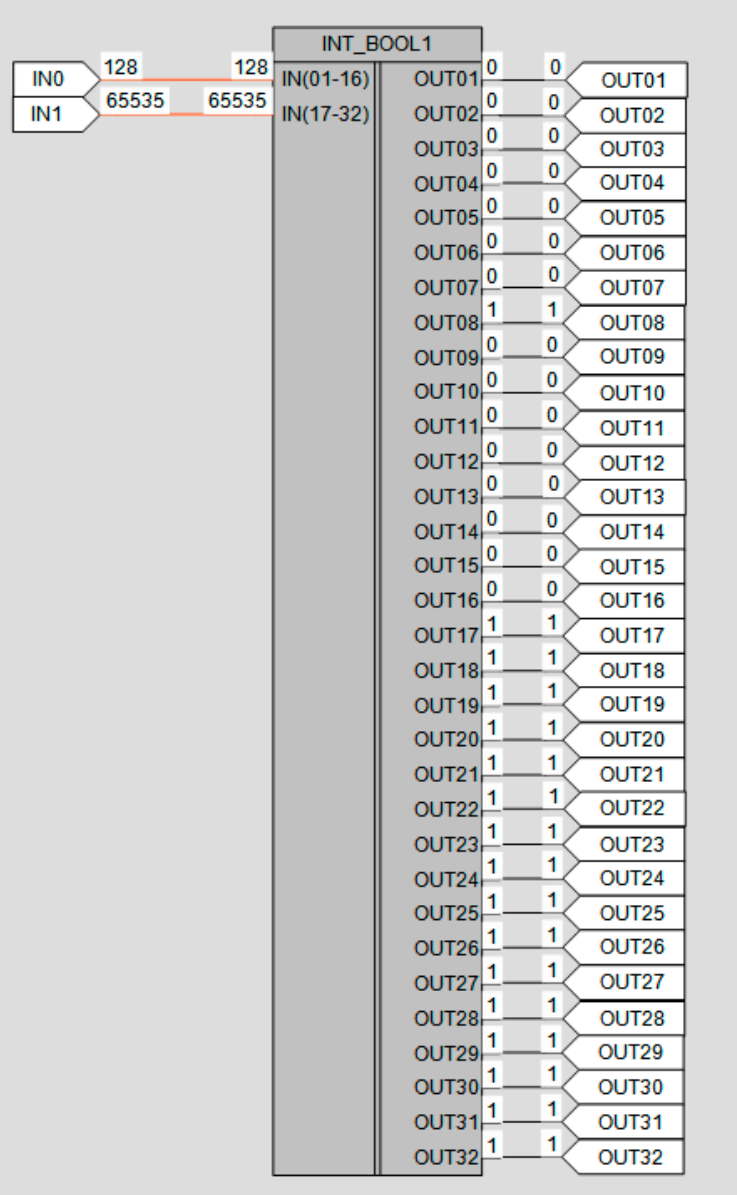
1. If the macro is used to control devices via an RS-485 network in which the number of output relays is less than 32, it is necessary to connect the relay to output "OUT01" in ascending order.
2. The inputs "IN(01-16)" and "IN(17-32)" operate independently, i.e. you can use the first input to connect 8 relays, to control all relays the input values range from 0 to 255. Connecting 4 relays to the second input the range of values will be 0-15.
3. If it is necessary to use no more than 16 discrete outputs in one group, you can use either set of outputs "OUT01-OUT16" or "OUT17-OUT32", leaving the second unused input and the outputs unconnected.

Structure of the macro



Sample project

In this example, two variables of type Int are used to break them down into bits for further use in the program. The first variable IN0 has a value of 128, in binary format for this number only the 8th bit is set to "1", in the macro it is the output OUT08. The second variable IN1 has a value of 65535, which corresponds to 16 units in binary format, these bits are set at the macro outputs OUT17-OUT32. A sample macro is shown below.



Macro application areas:

1) To unpack the value of a variable received over a network or generated in a program in bits for further use in the algorithm.
2) To display the required bits of the result value on the PR200 screen.
3) To reduce the number of tags transmitted via the Modbus protocol.

Devices	PR200, SMI200
Version	1.0
Last modification	06.06.2020