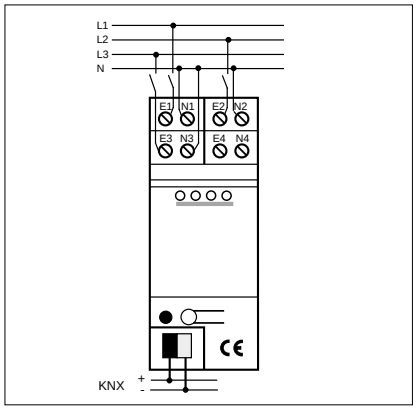
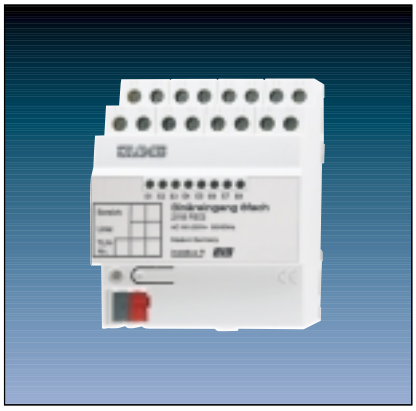
1

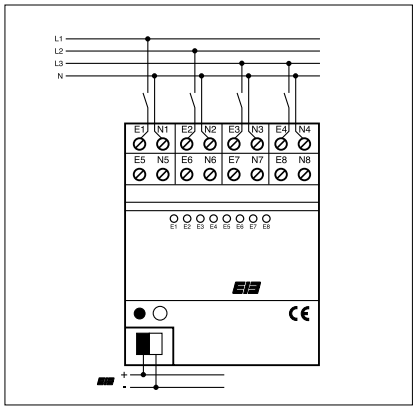


2

	Ref.-No.
KNX universal binary input, 4-gang	**2114 REG**
ETS-product family:	Input
Product type:	4-gang binary input
Series embodiment (SE-) device (2 units)	

1





2

	Ref.-No.
KNX universal binary input, 8-gang	**2118 REG**
ETS-product family:	Input
Product type:	8-gang binary input
Series embodiment (SE-) device (4 units)	

3

With its 4 (8) independent inputs, this binary input can collect 230 V signals and send messages to the KNX, depending on the parameter setting. These can, for example, be messages for switching, dimming (single-level or two-level operation) or for blind/shutter control. Also, it is possible to program certain functions such as dimming value transmitter, light scene extension as well as temperature or brightness transmitter, respectively. Various functions can be assigned to the 4 (8) inputs.
In addition, inputs 1 and 2 can be parameterised with pulse or switching counter functions.
Finally, the binary input offers a blocking function to enable or disable certain inputs.

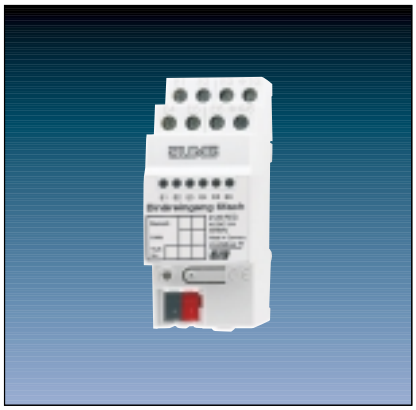
4 Technical data

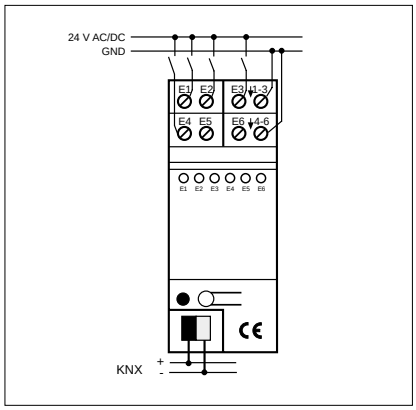
Supply	
Voltage:	24 V DC (+6 V / -4 V)
Power consumption:	
2114 REG:	150 mW
2118 REG:	max. 240 mW
Connection:	KNX connection block
Input	
Number	
2114 REG:	4
2118 REG:	8
Signal voltage	110 V … 230 V AC ± 10 %; 50/60 Hz
Signal current	approx. 7 mA at 230 V AC per input (max. glow discharge lamp current < 2 mA for reliable "0" recognition)
Signal length for pulse	Tmin. = 200 ms at a mark-to-space ratio of 1:1
“0”-signal	0 … 70 V AC
“1”-signal	> 90 V AC
Input line length	100 m max. (unshielded)
Connection:	clamp bar
Behaviour at voltage drop	
only bus voltage	no reaction
only mains	a falling edge is detected; this response depends on the parameters
bus and mains	no reaction
Behaviour at voltage recovery	
only bus voltage	dependent on parameters
only mains	a rising edge is detected; this response depends on the parameters
bus and mains	dependent on parameters
Protection:	IP 20
Operation temperature:	–5°C ... +45°C
Storage temperature:	–25°C ... +70°C
Mounting:	on DIN rail 35 x 7.5

Notes:

• Different lines can be connected to the device.

1





2

	Ref.-No.
KNX universal binary input, 6-gang	**2126 REG**
ETS-product family:	Input
Product type:	6-gang binary input
Series embodiment (SE-) device (2 units)	

3

With its six independent inputs, this binary input can collect 24 V signals and send messages to the KNX, depending on the parameter setting. These can, for example, be messages for switching, dimming (single-level or two-level operation) or for blind/shutter control. Also, it is possible to program certain functions such as dimming value transmitter, light scene extension as well as temperature or brightness transmitter, respectively. Various functions can be assigned to the six inputs.
In addition, inputs 1 and 2 can be parameterised with pulse or switching counter functions.
Finally, the binary input offers a blocking function to enable or disable certain inputs.

4

Technical data

Supply	
Voltage:	24 V DC (+6 V / -4 V)
Power consumption:	max. 225 mW
Connection:	KNX connection block
Input	
Number	6
Signal voltage	8 V … 42 V AC/DC; 50/60 Hz
Signal current	approx. 4 mA at 24 V AC/DC per input
Signal length for pulse	Tmin. = 200 ms at a mark-to-space ratio of 1:1
“0”-signal	0 … 1.8 V AC 42 V … 1.8 V DC
“1”-signal	> 8 V AC/DC
Input line length	100 m max. (unshielded)
Connection:	clamp bar
Behaviour at voltage drop	
only bus voltage	no reaction
only mains	–
bus and mains	no reaction
Behaviour at voltage recovery	
only bus voltage	dependent on parameters
only mains	–
bus and mains	dependent on parameters
Protection:	IP 20
Operation temperature:	–5°C ... +45°C
Storage temperature:	–25°C ... +70°C
Mounting:	on DIN rail 35 x 7.5

Note:
• 24 V and 230 V potentials are to be led in separate cables.

5 Description of universal software application:

General
- Free assignment of the switching, dimming, blind/shutter, valuator functions to the inputs.
- Free assignment of the pulse counter and switching counter functions to inputs 1 and 2.
  For the pulse counter function parameterised for input 1 (2), input 3 (4) will be reserved for the sync signal and, therefore, cannot be used for any other functions.
- Signal indication is possible through four yellow status LED's. The status LED will light up when a signal is being applied and cannot be parameterised.
- Blocking object to enable / disable individual inputs.
- Delay times upon bus voltage recovery and debouncing time centrally adjustable.
- Behaviour on bus voltage recovery adjustable.
- Limit value for telegrams adjustable in general, for all inputs.

Switching function
- Two independent switching objects are available for each input and can be valuated individually.
- Command upon rising and falling edges separately selectable (ON, OFF, TOGGLE, no response).
- Independent cyclic sending of the switching objects selectable as a function of the edge or of the object value, respectively.

Dimming function
- Single-level or two-level operation possible.
- Time between dimming and switching and dimming step width adjustable.
- Repetition of telegram and sending stop telegram possible.

Blind/shutter function
- Command upon the rising edge (no function, UP, DOWN, TOGGLE) adjustable.
- Operating concept parameterisable (short – long – short or long - short).
- Time between short-time mode and long-time mode adjustable (for short – long – short only).
- Louvres adjustment time (for louvers adjustment by one single push button action).

Transmitter and light scene extension function
- Edge (push button as normally-open contact, push button as normally-closed contact, switch) and a certain value can be parameterised.
- Value changing possible in case of push button mode by pressing push button for a longer time period.
- For light scene extension with memory function, saving of light scene is also possible without previously recalling it.

Temperature / brightness valuator functions
- Edge (push-button as normally-open contact, push-button as normally-closed contact, switch) and a certain value can be parameterised.
- Value changing possible in case of push-button mode by pressing push-button for a longer time period.

Pulse counter function
- Pulse counting edge and meter reading interval time can be parameterised.
- Sync signal edge for counter reset and corresponding switch telegram (including edge evaluation) adjustable.

Switching counter function
- Edge for counting of the input signals and maximum meter reading are adjustable.
- Step width for meter reading output and command (no telegram, ON, OFF, TOGGLE) upon reaching max. meter reading can be parameterised.

5 Objects for 2114 REG:

Number of addresses: 26
Number of assignments: 27
Communication objects: 12

Object	Name	Function	Type	Flag
Function: Switching (for all inputs)				
0 – 3	Input 1 – 4	Switching	1 Bit	C, W, T, (R)
Function: Dimming (for all inputs)				
0 – 3	Input 1 – 4	Switching	1 Bit	C, W, T, (R)
8 – 11	Input 1 – 4	Dimming	4 Bit	C, T, (R)
Function: Blind/shutter control (for all inputs)				
0 – 3	Input 1 – 4	Short time operation	1 Bit	C, T, (R)
8 – 11	Input 1 – 4	Long time operation	1 Bit	C, T, (R)
Function: Dimming value transmitter (for all inputs)				
0 – 3	Input 1 – 4	Value	1 Byte	C, T, (R)
Function: Light scene extension (for all inputs)				
0 – 3	Input 1 – 4	Light scene extension	1 Byte	C, T, (R)
Function: Temperature value transmitter (for all inputs)				
8 – 11	Input 1 – 4	Temperature value	2 Byte	C, T, (R)
Function: value transmitter (for all inputs)				
8 – 11	Input 1 – 4	Brightness value	2 Byte	C, T, (R)
Function: Impulse counter (for inputs 1 and 2 only)				
2	Input 3	Synch signal counter 1	1 Bit	C, W, T, (R)
3	Input 4	Synch signal counter 2	1 Bit	C, W, T, (R)
8	Input 1	Meter reading counter 1	2 Byte	C, T, (R)
9	Input 2	Meter reading counter 2	2 Byte	C, T, (R)
Function: Switching counter (for inputs 1 and 2 only)				
0	Input 1	Switching counter	1 Bit	C, W, T, (R)
1	Input 2	Switching counter	1 Bit	C, W, T, (R)
8	Input 1	Switching counter	2 Byte	C, T, (R)
9	Input 2	Switching counter	2 Byte	C, T, (R)
Function: Blocking (for all inputs)				
16 – 19 (*)	Input 1 – 4	Blocking	1 Bit	C, T, (R)

Objects marked with (R): Object value can be read out (set R-flag!)
Objects marked with (*): If the inputs have been parameterised to "no function", "impulse counter" or "switching counter", the blocking function is not active.

5 Objects for 2118 REG:

Number of addresses: 26
Number of assignments: 27
Communication objects: 24

Object	Name	Function	Type	Flag
Function: Switching (for all inputs)				
0 – 7	Input 1 – 8	Switching	1 Bit	C, W, T, (R)
Function: Dimming (for all inputs)				
0 – 7	Input 1 – 8	Switching	1 Bit	C, W, T, (R)
8 – 15	Input 1 – 8	Dimming	4 Bit	C, T, (R)
Function: Blind/shutter control (for all inputs)				
0 – 7	Input 1 – 8	Short time operation	1 Bit	C, T, (R)
8 – 15	Input 1 – 8	Long time operation	1 Bit	C, T, (R)
Function: Dimming value transmitter (for all inputs)				
0 – 7	Input 1 – 8	Value	1 Byte	C, T, (R)
Function: Light scene extension (for all inputs)				
0 – 7	Input 1 – 8	Light scene extension	1 Byte	C, T, (R)
Function: Temperature value transmitter (for all inputs)				
8 – 15	Input 1 – 8	Temperature value	2 Byte	C, T, (R)
Function: value transmitter (for all inputs)				
8 – 15	Input 1 – 8	Brightness value	2 Byte	C, T, (R)
Function: Impulse counter (for inputs 1 and 2 only)				
2	Input 3	Synch signal counter 1	1 Bit	C, W, T, (R)
3	Input 4	Synch signal counter 2	1 Bit	C, W, T, (R)
8	Input 1	Meter reading counter 1	2 Byte	C, T, (R)
9	Input 2	Meter reading counter 2	2 Byte	C, T, (R)
Function: Switching counter (for inputs 1 and 2 only)				
0	Input 1	Switching counter	1 Bit	C, W, T, (R)
1	Input 2	Switching counter	1 Bit	C, W, T, (R)
8	Input 1	Switching counter	2 Byte	C, T, (R)
9	Input 2	Switching counter	2 Byte	C, T, (R)
Function: Blocking (for all inputs)				
16 – 23 (*)	Input 1 – 8	Blocking	1 Bit	C, T, (R)

Objects marked with (R): Object value can be read out (set R-flag!)
Objects marked with (*): If the inputs have been parameterised to "no function", "impulse counter" or "switching counter", the blocking function is not active.

5 Objects for 2126 REG:

Number of addresses: 26
Number of assignments: 27
Communication objects: 18

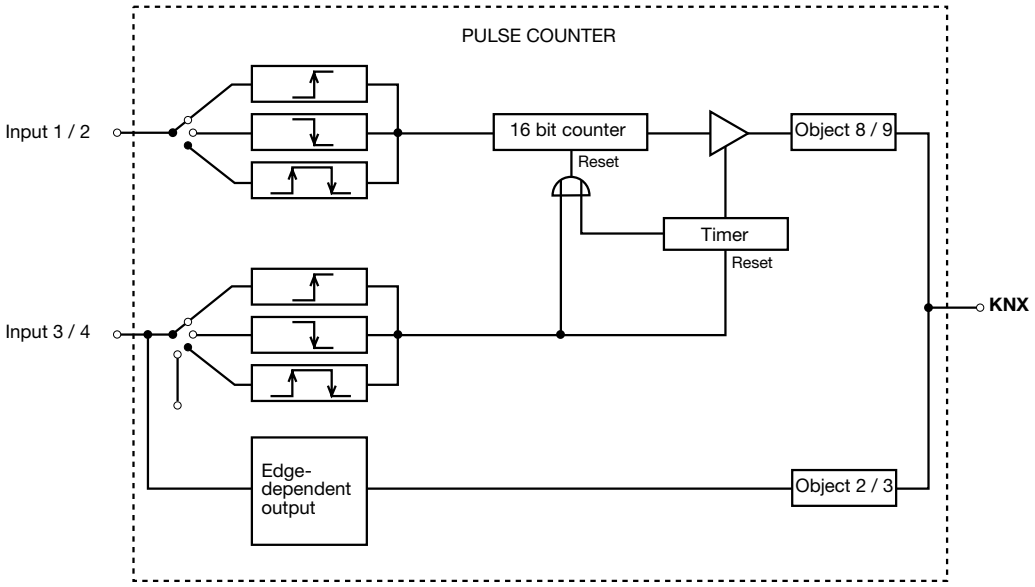
Object	Name	Function	Type	Flag
Function: Switching (for all inputs)				
0 – 5	Input 1 – 6	Switching	1 Bit	C, W, T, (R)
Function: Dimming (for all inputs)				
0 – 5	Input 1 – 6	Switching	1 Bit	C, W, T, (R)
8 – 13	Input 1 – 6	Dimming	4 Bit	C, T, (R)
Function: Blind/shutter control (for all inputs)				
0 – 5	Input 1 – 6	Short time operation	1 Bit	C, T, (R)
8 – 13	Input 1 – 6	Long time operation	1 Bit	C, T, (R)
Function: Dimming value transmitter (for all inputs)				
0 – 5	Input 1 – 6	Value	1 Byte	C, T, (R)
Function: Light scene extension (for all inputs)				
0 – 5	Input 1 – 6	Light scene extension	1 Byte	C, T, (R)
Function: Temperature value transmitter (for all inputs)				
8 – 13	Input 1 – 6	Temperature value	2 Byte	C, T, (R)
Function: value transmitter (for all inputs)				
8 – 13	Input 1 – 6	Brightness value	2 Byte	C, T, (R)
Function: Impulse counter (for inputs 1 and 2 only)				
2	Input 3	Synch signal counter 1	1 Bit	C, W, T, (R)
3	Input 4	Synch signal counter 2	1 Bit	C, W, T, (R)
8	Input 1	Meter reading counter 1	2 Byte	C, T, (R)
9	Input 2	Meter reading counter 2	2 Byte	C, T, (R)
Function: Switching counter (for inputs 1 and 2 only)				
0	Input 1	Switching counter	1 Bit	C, W, T, (R)
1	Input 2	Switching counter	1 Bit	C, W, T, (R)
8	Input 1	Switching counter	2 Byte	C, T, (R)
9	Input 2	Switching counter	2 Byte	C, T, (R)
Function: Blocking (for all inputs)				
16 – 21 (*)	Input 1 – 6	Blocking	1 Bit	C, T, (R)

Objects marked with (R): Object value can be read out (set R-flag!)
Objects marked with (*): If the inputs have been parameterised to "no function", "impulse counter" or "switching counter", the blocking function is not active.

5 Notes to software application:

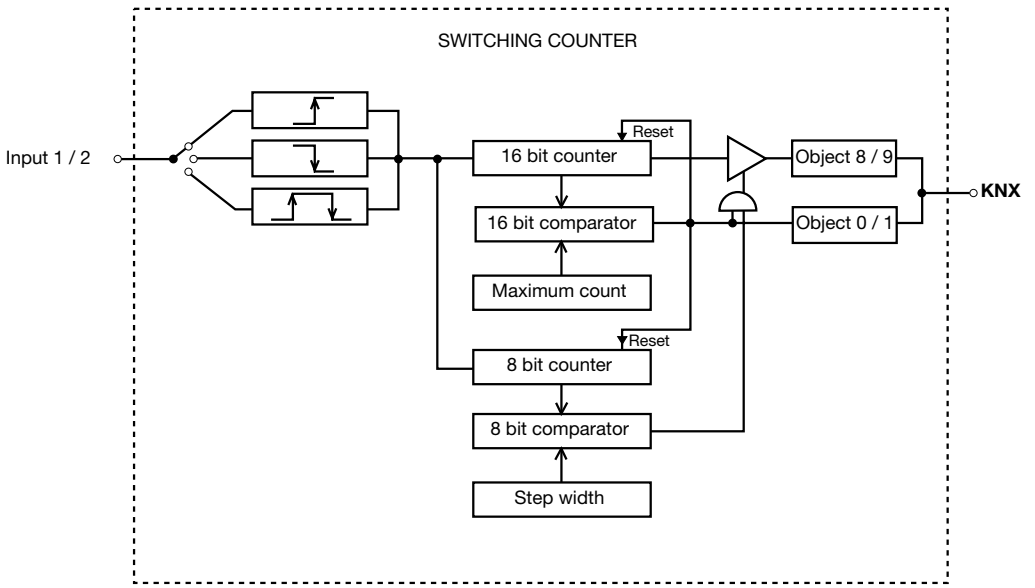
• Impulse counter

The pulse counters can only be parameterised to input 1 or 2. In this case, inputs 3 (for pulse counter 1) or 4 (for pulse counter 2) are the sync signal inputs and cannot be assigned to any other function. Pulse counters 1 and 2 run independently of each other and have a resolution of 16 bit so that counts between 0 and 65535 are possible. You can set the R-flag to read out the current count at object 8 or 9.
The counting pulse is applied to input 1 or 2. After the interval time specified as parameter has elapsed, the count will be taken over and sent as object value of the 2 byte "count" object (object 8 or 9). Then the 2 byte pulse counter will be internally reset during the next time interval.
Only upon the appearance of a new edge at the input, or after the newly started interval time has elapsed, the current count can be read out from the count objects (set R-flag).
In addition, the count and the interval time can be reset by a sync signal applied to input 3 or 4, respectively. Moreover, switch telegrams (no telegram, ON, OFF, TOGGLE) can be sent in dependence of the sync signal edge. The output value can be assigned to the edge.
The edge assignment for resetting the count can be parameterised independently of the output value.
For pulse counting, the mark-to-space time of a signal applied to input 1 or 2 must not fall below 100 ms.



• Switching counter

The switching counters can only be parameterised to input 1 or 2. Switching counters 1 and 2 run independently of each other and have a resolution of 16 bit so that counts between 1 and 65535 are possible. You can set the R-flag to read out the current count at object 8 or 9.
The counting pulse is applied to input 1 or 2. After the count has reached the parameterised set value, it will be taken over into 2 byte object 8 or 9 and transmitted. Simultannously, it is possible to output a signal value (1 bit object "0" or "1") which can be parameterised. After the transmission, the 16 bit counter will be automatically and internally reset. Only upon the appearance of a new edge at the input, the current count can be read out from the count objects (set R-flag).
Moreover, the count will be sent in cycles after a pre-defined number of counting pulses (1 … 255), which is used to get an automatic update on any display for instance.
For switch counting, the mark-to-space time of a signal applied to input 1 or 2 must not fall below 100 ms.



5 Notes to software application:

- **Bus voltage recovery**

  You can specify for each input what response is to be made upon bus voltage recovery. If a delay time after bus voltage recovery has been parameterised, this time has to be elapsed until the response will be made. Within the delay, any edges or signals applied to the inputs will be ignored. The delay time should be parameterised for all inputs.
  You can parameterise the limit number of telegrams. In such case, no telegram will be sent within the first 17 s after bus voltage recovery. Please note that any possibly parameterised delay after bus voltage recovery may also be active during this time.
  Any edge or signal applied to the inputs upon bus voltage recovery will be ignored.

- **Blocking function**

  At the beginning or at the end of the blocking, an independent response can be made to each input. In this case, you can set the parameter to "no response". Only in such case, any dimming or blind/shutter control or value changing events running until the action is completed during an active blocking. In any other cases, the parameterised command will be sent immediately at the start of blocking. Moreover, any edges or signals at the corresponding inputs will not be accepted during an active blocking.
  Updates on blocking objects (disable or enable) each time cause the corresponding parameterised command to be sent "at start or end of the blocking".
  During an active blocking, there will be no cyclic sending through the disabled input.
  If cyclic sending was taking place prior to an activation of the blocking function, no more cyclic sending will be performed at the end of the blocking, provided that "no telegram" has been parameterised. In this case, the cyclic transmission of the object value will only be effected again after an update on the switching object. In any other cases, the object value will be sent in cycles again after the end of blocking.