

Data mapping of system Tiger Profinet

General:

The data mapping of the mentioned input and output modules refer to the definitions in the GSDML files

- 'GSDML-V2.42-Tele Radio GmbH-NIC52RE-Tiger-20220110.xml' and
- 'GSDML-V2.42-Tele Radio GmbH-NIC52RE-Tiger-20230308.xml'.

The data of the input modules for the various transmitter types include the states of the user controls (pushbuttons, joysticks, potentiometers, ...) of the concerning transmitter type, the states of the inputs and outputs of the receiver (relays, analogue outputs, digital inputs, ...), as well as general information on the system status (radio link, serial number of the active transmitter, etc.).

In total, there are 6 input modules defined in the GSDML files, one with 16 Bytes of data and five with 32 bytes of data.

The 16-byte input module has a fixed data mapping which is valid for all transmitter types. The module is fixed in slot 6 and cannot be removed.

The data mapping of the 32-byte input modules depends on the transmitter type being used. The input module suitable for the transmitter used must be selected and plugged into slot 5. Unused bits and bytes always read as zero.

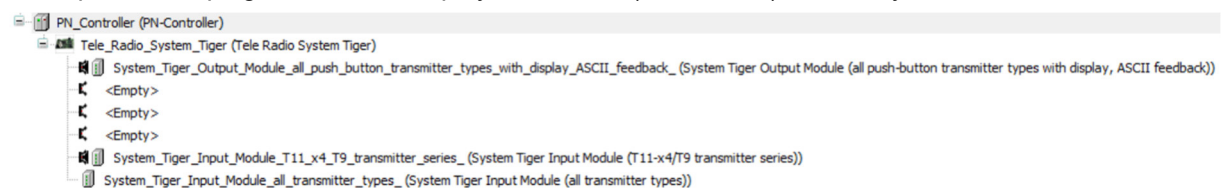
There are also 3 output modules defined in the GSDML files, each with 32 bytes of data. The PLC can write data to the output modules which can be used for feedback from the receiver to the transmitter (text on the TX display, switching LEDs or the buzzer on the TX, ...), resp. to switch relays in the receiver. The above-mentioned versions of the GSDML files only differ in the data structure of some feedback signals where in version '...Tiger-20220110.xml' the ASCII character positions for text feedback are named explicitly. In version '...Tiger-20230308.xml', these areas are not specifically named, but only defined as double-word variables of 4 bytes length and can carry all kind of data, also ASCII characters. It's up to the user to define content of these variables. The output module suitable for the used transmitter type must be selected and plugged into slot 1.

Unused bits and bytes in the output modules (also bits and bytes representing non-existing hardware components, e. g. relays, LEDs, etc.) can be written with any values, but this will show no effect.

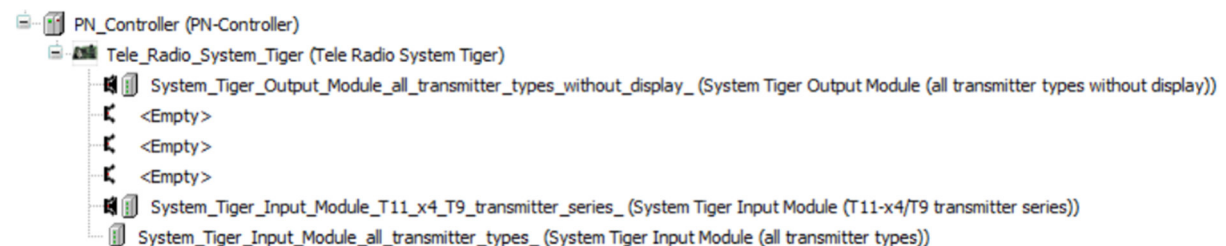
Examples:

- The receiver has only 7 relays, but the bit to activate relay 8 is written → no effect
- The transmitter has only 8 LEDs, but the bit to activate LED 10 is written → no effect

Example how to plug a 10-button display transmitter (TG-T11-04) in Codesys:



Example how to plug an 8-button transmitter without display (TG-T9-01) in Codesys:



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Input modules:

Input module System Tiger input module (transmitter series T11-x4/T9)

refers to the following pushbutton transmitters:

- TG-T9-1: 8 two-step pushbuttons, 8 red LEDs, without display, 433 MHz
- TG-T9-11: 8 two-step pushbuttons, 8 red LEDs, without display, 915 MHz
- TG-T9-2: 6 two-step pushbuttons, 6 red LEDs, LCD-display, 433 MHz
- TG-T9-12: 6 two-step pushbuttons, 6 red LEDs, LCD-display, 915 MHz
- TG-T11-4: 10 two-step pushbuttons, 10 red LEDs, LCD-display, 433 MHz
- TG-T11-14: 10 two-step pushbuttons, 10 red LEDs, LCD-display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	Extended radio flags	uint8	bit0: status of the stop-relays bit1: status of safety function relay SF1 bit2: status of safety function relay SF2 bit3: radio link ok bit4: radio timeout ok bit5: AFC locked bit6: session with TX bit7: radio data valid	1, if stop-relays activated, receiver can execute TX commands, 0, if stop-relays deactivated, receiver is in emergency-stop. 1, if relay SF1 is on 0, if relay SF1 is off 1, if relay SF2 is on 0, if relay SF2 is off <i>Note: SF1 and SF2 are only available in receiver series R9.</i> 1, if radio link between TX and RX is correctly established, 0, if radio link between TX and RX is lost (will result in passive emergency stop). 1, if valid radio data have been received from TX within the assigned timeout window, 0, if no valid radio data have been received within the assigned timeout window (will result in passive emergency stop after 500 ms). 1, if automatic frequency control of the RX is locked, 0, if automatic frequency control of the RX is not locked (should not happen, can lead to loss of radio link). 1, if an assigned TX is controlling the RX (no other transmitters can log in and take control), 0, if no TX controls the RX (assigned transmitters can log into the RX and take control). 1, if the most recently received radio data from an assigned transmitter were received correctly, 0, if the most recently received radio data were not correct (will result in passive emergency stop, if no valid data can be received within 500 ms).
1	Extended radio flags	uint8	bit0: relay power supply on bit1: RSSI value below minimum bit2: RSSI value above maximum bit3: zero position ok bit4: Alive counter bit0 (LSB), bit5: Alive counter bit1, bit6: Alive counter bit2, bit7: Alive counter bit3 (MSB)	1, if the supply voltage of the relays is on, 0, if the supply voltage of the relays is off (will only happen in case of emergency stop). 1, if the measured radio signal strength of the transmitter is below the configured minimum value in the receiver (because the RX is too far away from the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is above the configured minimum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the minimum value is not configured). 1, if the measured radio signal strength of the transmitter is above the configured maximum value in the receiver (because the RX is too close to the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is below the configured maximum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the maximum value is not configured). 1, if no button of the transmitter was pressed while powering the TX on (necessary for safety reasons), 0, if at least one button was pressed while powering the transmitter on. In such case the receiver will only respond to radio commands after all buttons were released (bit3 = 1). The alive counter is a 4-bit ring counter which is incremented cyclically every 250 ms. This counter helps to diagnose if the ProfiNet communication works properly.

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Byte no.	Name	Data type	Bit mapping	Explanation
2	Status of receiver relays	uint8	bit0: relay 1 on bit1: relay 2 on ... bit7: relay 8 on	1, if the concerning RX relay is on, 0, if the concerning RX relay is off.
3	Status of receiver relays	uint8	bit0: relay 9 on bit1: relay 10 on ... bit7: relay 16 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
4	Status of receiver relays	uint8	bit0: relay 17 on bit1: relay 18 on ... bit7: relay 24 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
5	Status of receiver relays	uint8	bit0: relay 25 on bit1: relay 26 on bit2: relay 27 on bit3: relay 28 on bit4: safety relay SR1 on bit5: safety relay SR2 on bit6: buzzer on bit7: stop relay on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off. The buzzer output is no relay, but an open-collector transistor switch to which a small external load, e. g. a buzzer can be connected. Same state as byte 0, bit0
6	Received radio signal strength (RSSI)	uint8	value range 0 – 15 _{dec}	Radio signal strength of the active transmitter. The higher the value, the stronger is the received signal.
7	Active radio channel	uint8	value range 1 – 69 _{dec} at 433 MHz value range 1 – 15 _{dec} at 915 MHz	Radio channel on which the data transmission takes place.
8 - 9	Digital inputs in the receiver	uint16	bit0: digital input 1 bit1: digital input 2 ... bit9: digital input 10 bits11 – 15: unused	Signal state of the digital inputs in the receiver. 1, if the corresponding input is active (= pulled to GND), 0, if the corresponding input is not active (input is open).
10	Buttons of pushbutton transmitter	uint8	bit0: button 3, step 1 bit1: button 3, step 2 bit2: button 4, step 1 bit3: button 4, step 2 bit4: button 5, step 1 bit5: button 5, step 2 bit6: button 6, step 1 bit7: button 6, step 2	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
11	Buttons of pushbutton transmitter	uint8	bit0: button 7, step 1 bit1: button 7, step 2 bit2: button 8, step 1 bit3: button 8, step 2 bit4: button 1, step 1 bit5: button 1, step 2 bit6: button 2, step 1 bit7: button 2, step 2	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
12	Buttons of pushbutton transmitter	uint8	bit0: left start-button, step 1 bit1: left start-button, step 2 bit2: right start-button, step 1 bit3: right start-button, step 2 bits4 – 7: unused	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
13	Unused	uint8		
14	Unused	uint8		
15	Unused	uint8		
16	Unused	int8		
17	Unused	int8		
18	Unused	int8		
19	Unused	int8		
20	Unused	int8		
21	Unused	int8		
22	Unused	int8		
23	Unused	int8		

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
24 - 25	Load selection bits	uint16	bit0: Load A active bit1: Load B active bit2: Load C active bit3: Load D active bit4: Load E active bit5: Load F active bit6: Load G active bit7: Load H active bit8: Load I active bit9: Load J active bit10: Load K active bit11: Load L active bit12: Load M active bit13: Load N active bit14: Load O active bit15: Load P active	The load selection bits can be considered as virtual inputs in the TX which can be used for various purposes, e. g. selecting specific receiver outputs. This is a customer-specific functionality and will be documented in the corresponding mapping template. 1, the corresponding load is active, 0, the corresponding load is not active.
26	System Tiger transmitter type	uint8	value range 0 – 7	Type of transmitter currently controlling the receiver. 0: undefined transmitter type 1: transmitter with 6 buttons 2: transmitter with 8 buttons 3: transmitter with 10 buttons 4: transmitter with 12 buttons 5: joystick transmitter of type JD 6: transmitter with 10 buttons, 6 of which are analogue 7: transmitter with 12 buttons, 8 of which are analogue
27	System Tiger transmitter status	uint8	bit0: charge indicator of TX battery bit0 (LSB) bit1: charge indicator of TX battery bit1 (MSB) bit2: TX battery being charged bit3: loss of radio feedback to TX bits4 – 7: unused	Charge indicator, value range 0 – 3. The higher the value, the higher is the remaining battery charge. 1, battery charger connected to the TX, battery is being charged, 0, TX battery is not being charged. 1, loss of radio link from receiver to transmitter. No feedback data can be sent from RX to TX 0, communication between TX and RX is active in both directions.
28	Unused	int8		
29	Unused	int8		
30	Unused	int8		
31	Unused	int8		

Data mapping of system Tiger Profinet

Input module System Tiger input module (transmitter series T11-x5)

refers to the following pushbutton transmitters:

- TG-T11-5: 12 two-step pushbuttons, 12 red LEDs, without display, 433 MHz
- TG-T11-15: 12 two-step pushbuttons, 12 red LEDs, without display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	Extended radio flags	uint8	bit0: status of the stop-relays bit1: status of safety function relay SF1 bit2: status of safety function relay SF2 bit3: radio link ok bit4: radio timeout ok bit5: AFC locked bit6: session with TX bit7: radio data valid	1, if stop-relays activated, receiver can execute TX commands, 0, if stop-relays deactivated, receiver is in emergency-stop. 1, if relay SF1 is on 0, if relay SF1 is off 1, if relay SF2 is on 0, if relay SF2 is off <i>Note: SF1 and SF2 are only available in receiver series R9.</i> 1, if radio link between TX and RX is correctly established, 0, if radio link between TX and RX is lost (will result in passive emergency stop). 1, if valid radio data have been received from TX within the assigned timeout window, 0, if no valid radio data have been received within the assigned timeout window (will result in passive emergency stop after 500 ms). 1, if automatic frequency control of the RX is locked, 0, if automatic frequency control of the RX is not locked (should not happen, can lead to loss of radio link). 1, if an assigned TX is controlling the RX (no other transmitters can log in and take control), 0, if no TX controls the RX (assigned transmitters can log into the RX and take control). 1, if the most recently received radio data from an assigned transmitter were received correctly, 0, if the most recently received radio data were not correct (will result in passive emergency stop, if no valid data can be received within 500 ms).
1	Extended radio flags	uint8	bit0: relay power supply on bit1: RSSI value below minimum bit2: RSSI value above maximum bit3: zero position ok bit4: Alive counter bit0 (LSB), bit5: Alive counter bit1, bit6: Alive counter bit2, bit7: Alive counter bit3 (MSB)	1, if the supply voltage of the relays is on, 0, if the supply voltage of the relays is off (will only happen in case of emergency stop). 1, if the measured radio signal strength of the transmitter is below the configured minimum value in the receiver (because the RX is too far away from the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is above the configured minimum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the minimum value is not configured). 1, if the measured radio signal strength of the transmitter is above the configured maximum value in the receiver (because the RX is too close to the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is below the configured maximum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the maximum value is not configured). 1, if no button of the transmitter was pressed while powering the TX on (necessary for safety reasons), 0, if at least one button was pressed while powering the transmitter on. In such case the receiver will only respond to radio commands after all buttons were released (bit3 = 1). The alive counter is a 4-bit ring counter which is incremented cyclically every 250 ms. This counter helps to diagnose if the ProfiNet communication works properly.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
2	Status of receiver relays	uint8	bit0: relay 1 on bit1: relay 2 on ... bit7: relay 8 on	1, if the concerning RX relay is on, 0, if the concerning RX relay is off.
3	Status of receiver relays	uint8	bit0: relay 9 on bit1: relay 10 on ... bit7: relay 16 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
4	Status of receiver relays	uint8	bit0: relay 17 on bit1: relay 18 on ... bit7: relay 24 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
5	Status of receiver relays	uint8	bit0: relay 25 on bit1: relay 26 on bit2: relay 27 on bit3: relay 28 on bit4: safety relay SR1 on bit5: safety relay SR2 on bit6: buzzer on bit7: stop relay on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off. The buzzer output is no relay, but an open-collector transistor switch to which a small external load, e. g. a buzzer can be connected. Same state as byte 0, bit0
6	Received radio signal strength (RSSI)	uint8	value range 0 – 15 _{dec}	Radio signal strength of the active transmitter. The higher the value, the stronger is the received signal.
7	Active radio channel	uint8	value range 1 – 69 _{dec} at 433 MHz value range 1 – 15 _{dec} at 915 MHz	Radio channel on which the data transmission takes place.
8 - 9	Digital inputs in the receiver	uint16	bit0: digital input 1 bit1: digital input 2 ... bit9: digital input 10 bits11 – 15: unused	Signal state of the digital inputs in the receiver. 1, if the corresponding input is active (= pulled to GND), 0, if the corresponding input is not active (input is open).
10	Buttons of pushbutton transmitter	uint8	bit0: button 3, step 1 bit1: button 3, step 2 bit2: button 4, step 1 bit3: button 4, step 2 bit4: button 5, step 1 bit5: button 5, step 2 bit6: button 6, step 1 bit7: button 6, step 2	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
11	Buttons of pushbutton transmitter	uint8	bit0: button 9, step 1 bit1: button 9, step 2 bit2: button 10, step 1 bit3: button 10, step 2 bit4: button 1, step 1 bit5: button 1, step 2 bit6: button 2, step 1 bit7: button 2, step 2	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
12	Buttons of pushbutton transmitter	uint8	bit0: left start-button, step 1 bit1: left start-button, step 2 bit2: right start-button, step 1 bit3: right start-button, step 2 bit4: button 7, step 1 bit5: button 7, step 2 bit6: button 8, step 1 bit7: button 8, step 2	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
13	Unused	uint8		
14	Unused	uint8		
15	Unused	uint8		
16	Unused	int8		
17	Unused	int8		
18	Unused	int8		
19	Unused	int8		
20	Unused	int8		
21	Unused	int8		
22	Unused	int8		
23	Unused	int8		

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
24 - 25	Load selection bits	uint16	bit0: Load A active bit1: Load B active bit2: Load C active bit3: Load D active bit4: Load E active bit5: Load F active bit6: Load G active bit7: Load H active bit8: Load I active bit9: Load J active bit10: Load K active bit11: Load L active bit12: Load M active bit13: Load N active bit14: Load O active bit15: Load P active	The load selection bits can be considered as virtual inputs in the TX which can be used for various purposes, e. g. selecting specific receiver outputs. This is a customer-specific functionality and will be documented in the corresponding mapping template. 1, the corresponding load is active, 0, the corresponding load is not active.
26	System Tiger transmitter type	uint8	value range 0 – 7	Type of transmitter currently controlling the receiver. 0: undefined transmitter type 1: transmitter with 6 buttons 2: transmitter with 8 buttons 3: transmitter with 10 buttons 4: transmitter with 12 buttons 5: joystick transmitter of type JD 6: transmitter with 10 buttons, 6 of which are analogue 7: transmitter with 12 buttons, 8 of which are analogue
27	System Tiger transmitter status	uint8	bit0: charge indicator of TX battery bit0 (LSB) bit1: charge indicator of TX battery bit1 (MSB) bit2: TX battery being charged bit3: loss of radio feedback to TX bits4 – 7: unused	Charge indicator, value range 0 – 3. The higher the value, the higher is the remaining battery charge. 1, battery charger connected to the TX, battery is being charged, 0, TX battery is not being charged. 1, loss of radio link from receiver to transmitter. No feedback data can be sent from RX to TX 0, communication between TX and RX is active in both directions.
28	Unused	int8		
29	Unused	int8		
30	Unused	int8		
31	Unused	int8		

Data mapping of system Tiger Profinet

Input module System Tiger input module (transmitter series T12)

refers to the following customer-specific transmitters which can be equipped with joysticks, paddles, potentiometers, pushbuttons, toggle switches, rocker switches, rotary switches, etc. All transmitters of this type are also equipped with an LCD-display on which the system status (battery charge, radio channel and signal strength) and feedback data from the receiver to the transmitter can be displayed.

- TG-T12-20: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-30: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-25: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-35: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-24: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-23: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-33: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-22: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-21: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-31: console transmitter, customer-specific, LCD-display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	Extended radio flags	uint8	bit0: status of the stop-relays bit1: status of safety function relay SF1 bit2: status of safety function relay SF2 bit3: radio link ok bit4: radio timeout ok bit5: AFC locked bit6: session with TX bit7: radio data valid	1, if stop-relays activated, receiver can execute TX commands, 0, if stop-relays deactivated, receiver is in emergency-stop. 1, if relay SF1 is on 0, if relay SF1 is off 1, if relay SF2 is on 0, if relay SF2 is off <i>Note: SF1 and SF2 are only available in receiver series R9.</i> 1, if radio link between TX and RX is correctly established, 0, if radio link between TX and RX is lost (will result in passive emergency stop). 1, if valid radio data have been received from TX within the assigned timeout window, 0, if no valid radio data have been received within the assigned timeout window (will result in passive emergency stop after 500 ms). 1, if automatic frequency control of the RX is locked, 0, if automatic frequency control of the RX is not locked (should not happen, can lead to loss of radio link). 1, if an assigned TX is controlling the RX (no other transmitters can log in and take control), 0, if no TX controls the RX (assigned transmitters can log into the RX and take control). 1, if the most recently received radio data from an assigned transmitter were received correctly, 0, if the most recently received radio data were not correct (will result in passive emergency stop, if no valid data can be received within 500 ms).
1	Extended radio flags	uint8	bit0: relay power supply on bit1: RSSI value below minimum bit2: RSSI value above maximum bit3: zero position ok bit4: Alive counter bit0 (LSB), bit5: Alive counter bit1, bit6: Alive counter bit2, bit7: Alive counter bit3 (MSB)	1, if the supply voltage of the relays is on, 0, if the supply voltage of the relays is off (will only happen in case of emergency stop). 1, if the measured radio signal strength of the transmitter is below the configured minimum value in the receiver (because the RX is too far away from the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is above the configured minimum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the minimum value is not configured). 1, if the measured radio signal strength of the transmitter is above the configured maximum value in the receiver (because the RX is too close to the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is below the configured maximum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the maximum value is not configured). 1, if no button of the transmitter was pressed while powering the TX on (necessary for safety reasons), 0, if at least one button was pressed while powering the transmitter on. In such case the receiver will only respond to radio commands after all buttons were released (bit3 = 1). The alive counter is a 4-bit ring counter which is incremented cyclically every 250 ms. This counter helps to diagnose if the ProfiNet communication works properly.

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Byte no.	Name	Data type	Bit mapping	Explanation
2	Status of receiver relays	uint8	bit0: relay 1 on bit1: relay 2 on ... bit7: relay 8 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
3	Status of receiver relays	uint8	bit0: relay 9 on bit1: relay 10 on ... bit7: relay 16 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
4	Status of receiver relays	uint8	bit0: relay 17 on bit1: relay 18 on ... bit7: relay 24 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
5	Status of receiver relays	uint8	bit0: relay 25 on bit1: relay 26 on bit2: relay 27 on bit3: relay 28 on bit4: safety relay SR1 on bit5: safety relay SR2 on bit6: buzzer on bit7: stop relay on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off. The buzzer output is no relay, but an open-collector transistor switch to which a small external load, e. g. a buzzer can be connected. Same state as byte 0, bit0
6	Received radio signal strength (RSSI)	uint8	value range 0 – 15 _{dec}	Radio signal strength of the active transmitter. The higher the value, the stronger is the received signal.
7	Active radio channel	uint8	value range 1 – 69 _{dec} at 433 MHz value range 1 – 15 _{dec} at 915 MHz	Radio channel on which the data transmission takes place.
8 - 9	Digital inputs in the receiver	uint16	bit0: digital input 1 bit1: digital input 2 ... bit9: digital input 10 bits11 – 15: unused	Signal state of the digital inputs in the receiver. 1, if the corresponding input is active (= pulled to GND), 0, if the corresponding input is not active (input is open).
10	Unused	uint8		
11	Unused	uint8		
12	Buttons of the joystick transmitter	uint8	bit0: side-button 4 bit1: unused bit2: side-button 3 bit3: unused bit4: side-button 1 bit5: unused bit6: side-button 2 bit7: unused	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
13	Buttons of the joystick transmitter	uint8	bit0: button 5 bit1: button 6 bit2: button 7 bit3: button 8 bit4: button 9 bit5: button 10 bit6: button 31 bit7: button 32	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
14	Buttons of the joystick transmitter	uint8	bit0: button 11 bit1: button 12 bit2: button 13 bit3: button 14 bit4: button 15 bit5: button 16 bit6: button 29 bit7: button 30	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
15	Buttons of the joystick transmitter	uint8	bit0: button 21 bit1: button 22 bit2: button 23 bit3: button 24 bit4: button 25 bit5: button 26 bit6: button 27 bit7: button 28	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
16	Lefthand joystick X-axis, stepped	int8	value range -4 – 0 – +4	Position of the stepped joysticks negative values = joystick moved left, 0 = joystick in neutral position, positive values = joystick moved right, example: -3 = joystick is moved to the 3 rd step, left-hand side.
17	Lefthand joystick Y-axis, stepped	int8	value range -4 – 0 – +4	Position of the stepped joysticks negative values = joystick moved down (towards operator), 0 = joystick in neutral position, positive values = joystick moved up (away from operator), example: -3 = joystick is moved to the 3 rd step, down.

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Byte no.	Name	Data type	Bit mapping	Explanation
18	Righthand joystick X-axis, stepped	int8	value range -4 – 0 – +4	Position of the stepped joysticks negative values = joystick moved left, 0 = joystick in neutral position, positive values = joystick moved right, example: -3 = joystick is moved to the 3 rd step, left-hand side.
19	Righthand joystick Y-axis, stepped	int8	value range -4 – 0 – +4	Position of the stepped joysticks negative values = joystick moved down (towards operator), 0 = joystick in neutral position, positive values = joystick moved up (away from operator), example: -3 = joystick is moved to the 3 rd step, down.
20	Lefthand joystick X-axis/Paddle 1 analogue output AK1	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer values of the analogue joystick, negative values = joystick moved to the left, 0 = joystick in neutral position, positive values = joystick moved to the right.
21	Lefthand joystick Y-axis/Paddle 2 analogue output AK2	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer values of the analogue joystick, negative values = joystick moved down (towards the operator), 0 = joystick in neutral position, positive values = joystick moved up (away from operator).
22	Righthand joystick X-axis/Paddle 3 analogue output AK3	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer values of the analogue joystick, negative values = joystick moved to the left, 0 = joystick in neutral position, positive values = joystick moved to the right.
23	Lefthand joystick Y-axis/Paddle 4 analogue output AK4	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer values of the analogue joystick, negative values = joystick moved down (towards the operator), 0 = joystick in neutral position, positive values = joystick moved up (away from operator).
24 - 25	Load selection bits	uint16	bit0: Load A active bit1: Load B active bit2: Load C active bit3: Load D active bit4: Load E active bit5: Load F active bit6: Load G active bit7: Load H active bit8: Load I active bit9: Load J active bit10: Load K active bit11: Load L active bit12: Load M active bit13: Load N active bit14: Load O active bit15: Load P active	The load selection bits can be considered as virtual inputs in the TX which can be used for various purposes, e. g. selecting specific receiver outputs. This is a customer-specific functionality and will be documented in the corresponding mapping template. 1, the corresponding load is active, 0, the corresponding load is not active.
26	System Tiger transmitter type	uint8	value range 0 – 7 _{dec}	Type of transmitter currently controlling the receiver. 0: undefined transmitter type 1: transmitter with 6 buttons 2: transmitter with 8 buttons 3: transmitter with 10 buttons 4: transmitter with 12 buttons 5: joystick transmitter of type JD 6: transmitter with 10 buttons, 6 of which are analogue 7: transmitter with 12 buttons, 8 of which are analogue
27	System Tiger transmitter status	uint8	bit0: charge indicator of TX battery bit0 (LSB) bit1: charge indicator of TX battery bit1 (MSB) bit2: TX battery being charged bit3: loss of radio feedback to TX bits4 – 7: unused	Charge indicator, value range 0 – 3. The higher the value, the higher is the remaining battery charge. 1, battery charger connected to the TX, battery is being charged, 0, TX battery is not being charged. 1, loss of radio link from receiver to transmitter. No feedback data can be sent from RX to TX 0, communication between TX an RX is active in both directions.
28	Analogue output AK5/Paddle 5	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer of further analogue controls
29	Analogue output AK6/Paddle 6	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer of further analogue controls
30	Analogue output AK7	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer of further analogue controls
31	Analogue output AK8	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer of further analogue controls

Data mapping of system Tiger Profinet

Input module System Tiger input module (transmitter series T14)

refers to the following pushbutton transmitters:

- TG-T14-7: 4 two-step pushbuttons, 6 analogue buttons, 10 red LEDs, LCD-display, 433 MHz
- TG-T14-8: 4 two-step pushbuttons, 6 analogue buttons, 10 red LEDs, LCD-display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	Extended radio flags	uint8	bit0: status of the stop-relays bit1: status of safety function relay SF1 bit2: status of safety function relay SF2 bit3: radio link ok bit4: radio timeout ok bit5: AFC locked bit6: session with TX bit7: radio data valid	1, if stop-relays activated, receiver can execute TX commands, 0, if stop-relays deactivated, receiver is in emergency-stop. 1, if relay SF1 is on 0, if relay SF1 is off 1, if relay SF2 is on 0, if relay SF2 is off <i>Note: SF1 and SF2 are only available in receiver series R9.</i> 1, if radio link between TX and RX is correctly established, 0, if radio link between TX and RX is lost (will result in passive emergency stop). 1, if valid radio data have been received from TX within the assigned timeout window, 0, if no valid radio data have been received within the assigned timeout window (will result in passive emergency stop after 500 ms). 1, if automatic frequency control of the RX is locked, 0, if automatic frequency control of the RX is not locked (should not happen, can lead to loss of radio link). 1, if an assigned TX is controlling the RX (no other transmitters can log in and take control), 0, if no TX controls the RX (assigned transmitters can log into the RX and take control). 1, if the most recently received radio data from an assigned transmitter were received correctly, 0, if the most recently received radio data were not correct (will result in passive emergency stop, if no valid data can be received within 500 ms).
1	Extended radio flags	uint8	bit0: relay power supply on bit1: RSSI value below minimum bit2: RSSI value above maximum bit3: zero position ok bit4: Alive counter bit0 (LSB), bit5: Alive counter bit1, bit6: Alive counter bit2, bit7: Alive counter bit3 (MSB)	1, if the supply voltage of the relays is on, 0, if the supply voltage of the relays is off (will only happen in case of emergency stop). 1, if the measured radio signal strength of the transmitter is below the configured minimum value in the receiver (because the RX is too far away from the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is above the configured minimum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the minimum value is not configured). 1, if the measured radio signal strength of the transmitter is above the configured maximum value in the receiver (because the RX is too close to the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is below the configured maximum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the maximum value is not configured). 1, if no button of the transmitter was pressed while powering the TX on (necessary for safety reasons), 0, if at least one button was pressed while powering the transmitter on. In such case the receiver will only respond to radio commands after all buttons were released (bit3 = 1). The alive counter is a 4-bit ring counter which is incremented cyclically every 250 ms. This counter helps to diagnose if the ProfiNet communication works properly.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
2	Status of receiver relays	uint8	bit0: relay 1 on bit1: relay 2 on ... bit7: relay 8 on	1, if the concerning RX relay is on, 0, if the concerning RX relay is off.
3	Status of receiver relays	uint8	bit0: relay 9 on bit1: relay 10 on ... bit7: relay 16 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
4	Status of receiver relays	uint8	bit0: relay 17 on bit1: relay 18 on ... bit7: relay 24 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
5	Status of receiver relays	uint8	bit0: relay 25 on bit1: relay 26 on bit2: relay 27 on bit3: relay 28 on bit4: safety relay SR1 on bit5: safety relay SR2 on bit6: buzzer on bit7: stop relay on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off. The buzzer output is no relay, but an open-collector transistor switch to which a small external load, e. g. a buzzer can be connected. Same state as byte 0, bit0
6	Received radio signal strength (RSSI)	uint8	value range 0 – 15 _{dec}	Radio signal strength of the active transmitter. The higher the value, the stronger is the received signal.
7	Active radio channel	uint8	value range 1 – 69 _{dec} at 433 MHz value range 1 – 15 _{dec} at 915 MHz	Radio channel on which the data transmission takes place.
8 - 9	Digital inputs in the receiver	uint16	bit0: digital input 1 bit1: digital input 2 ... bit9: digital input 10 bits11 – 15: unused	Signal state of the digital inputs in the receiver. 1, if the corresponding input is active (= pulled to GND), 0, if the corresponding input is not active (input is open).
10	Buttons of pushbutton transmitter	uint8	bit0: button 3, step 1 bit1: button 3, step 2 bit2: button 4, step 1 bit3: button 4, step 2 bit4: button 5, step 1 bit5: button 5, step 2 bit6: button 6, step 1 bit7: button 6, step 2	Virtual switching state of analogue pushbuttons 3 – 6. 1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
11	Buttons of pushbutton transmitter	uint8	bit0: button 7, step 1 bit1: button 7, step 2 bit2: button 8, step 1 bit3: button 8, step 2 bit4: button 1, step 1 bit5: button 1, step 2 bit6: button 2, step 1 bit7: button 2, step 2	Virtual switching state of analogue pushbuttons 1 – 2 and switching state of the 2-step buttons 7 - 8. 1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
12	Buttons of pushbutton transmitter	uint8	bit0: left Start-button, step 1 bit1: left Start-button, step 2 bit2: right Start-button, step 1 bit3: right Start-button, step 2 bits4 – 7: unused	1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
13	Unused	uint8		
14	Unused	uint8		
15	Unused	uint8		
16	Unused	int8		
17	Unused	int8		
18	Unused	int8		
19	Unused	int8		
20	Analogue output of buttons 3 and 4	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.
21	Analogue output of buttons 5 and 6	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.
22	Unused	int8		
23	Analogue output of buttons 1 and 2	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
24 - 25	Load selection bits	uint16	bit0: Load A active bit1: Load B active bit2: Load C active bit3: Load D active bit4: Load E active bit5: Load F active bit6: Load G active bit7: Load H active bit8: Load I active bit9: Load J active bit10: Load K active bit11: Load L active bit12: Load M active bit13: Load N active bit14: Load O active bit15: Load P active	The load selection bits can be considered as virtual inputs in the TX which can be used for various purposes, e. g. selecting specific receiver outputs. This is a customer-specific functionality and will be documented in the corresponding mapping template. 1, the corresponding load is active, 0, the corresponding load is not active.
26	System Tiger transmitter type	uint8	value range 0 – 7 _{dec}	Type of transmitter currently controlling the receiver. 0: undefined transmitter type 1: transmitter with 6 buttons 2: transmitter with 8 buttons 3: transmitter with 10 buttons 4: transmitter with 12 buttons 5: joystick transmitter of type JD 6: transmitter with 10 buttons, 6 of which are analogue 7: transmitter with 12 buttons, 8 of which are analogue
27	System Tiger transmitter status	uint8	bit0: charge indicator of TX battery bit0 (LSB) bit1: charge indicator of TX battery bit1 (MSB) bit2: TX battery being charged bit3: loss of radio feedback to TX bits4 – 7: unused	Charge indicator, value range 0 – 3. The higher the value, the higher is the remaining battery charge. 1, battery charger connected to the TX, battery is being charged, 0, TX battery is not being charged. 1, loss of radio link from receiver to transmitter. No feedback data can be sent from RX to TX 0, communication between TX and RX is active in both directions.
28	Unused	int8		
29	Unused	int8		
30	Unused	int8		
31	Unused	int8		

Data mapping of system Tiger Profinet

Input module System Tiger input module (transmitter series T15)

refers to the following pushbutton transmitters:

- TG-T15-7: 4 two-step pushbuttons, 8 analogue buttons, 12 red LEDs, LCD-display, 433 MHz
- TG-T15-8: 4 two-step pushbuttons, 8 analogue buttons, 12 red LEDs, LCD-display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	Extended radio flags	uint8	bit0: status of the stop-relays bit1: status of safety function relay SF1 bit2: status of safety function relay SF2 bit3: radio link ok bit4: radio timeout ok bit5: AFC locked bit6: session with TX bit7: radio data valid	1, if stop-relays activated, receiver can execute TX commands, 0, if stop-relays deactivated, receiver is in emergency-stop. 1, if relay SF1 is on 0, if relay SF1 is off 1, if relay SF2 is on 0, if relay SF2 is off <i>Note: SF1 and SF2 are only available in receiver series R9.</i> 1, if radio link between TX and RX is correctly established, 0, if radio link between TX and RX is lost (will result in passive emergency stop). 1, if valid radio data have been received from TX within the assigned timeout window, 0, if no valid radio data have been received within the assigned timeout window (will result in passive emergency stop after 500 ms). 1, if automatic frequency control of the RX is locked, 0, if automatic frequency control of the RX is not locked (should not happen, can lead to loss of radio link). 1, if an assigned TX is controlling the RX (no other transmitters can log in and take control), 0, if no TX controls the RX (assigned transmitters can log into the RX and take control). 1, if the most recently received radio data from an assigned transmitter were received correctly, 0, if the most recently received radio data were not correct (will result in passive emergency stop, if no valid data can be received within 500 ms).
1	Extended radio flags	uint8	bit0: relay power supply on bit1: RSSI value below minimum bit2: RSSI value above maximum bit3: zero position ok bit4: Alive counter bit0 (LSB), bit5: Alive counter bit1, bit6: Alive counter bit2, bit7: Alive counter bit3 (MSB)	1, if the supply voltage of the relays is on, 0, if the supply voltage of the relays is off (will only happen in case of emergency stop). 1, if the measured radio signal strength of the transmitter is below the configured minimum value in the receiver (because the RX is too far away from the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is above the configured minimum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the minimum value is not configured). 1, if the measured radio signal strength of the transmitter is above the configured maximum value in the receiver (because the RX is too close to the RX. Customer-specific setting, not activated in every system), 0, if the measured radio signal strength of the transmitter is below the configured maximum value in the receiver (Customer-specific setting, not activated in every system. Bit is 0, if the maximum value is not configured). 1, if no button of the transmitter was pressed while powering the TX on (necessary for safety reasons), 0, if at least one button was pressed while powering the transmitter on. In such case the receiver will only respond to radio commands after all buttons were released (bit3 = 1). The alive counter is a 4-bit ring counter which is incremented cyclically every 250 ms. This counter helps to diagnose if the ProfiNet communication works properly.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
2	Status of receiver relays	uint8	bit0: relay 1 on bit1: relay 2 on ... bit7: relay 8 on	1, if the concerning RX relay is on, 0, if the concerning RX relay is off.
3	Status of receiver relays	uint8	bit0: relay 9 on bit1: relay 10 on ... bit7: relay 16 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
4	Status of receiver relays	uint8	bit0: relay 17 on bit1: relay 18 on ... bit7: relay 24 on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off.
5	Status of receiver relays	uint8	bit0: relay 25 on bit1: relay 26 on bit2: relay 27 on bit3: relay 28 on bit4: safety relay SR1 on bit5: safety relay SR2 on bit6: buzzer on bit7: stop relay on	1, if the concerning RX relay (if available) is on, 0, if the concerning RX relay (if available) is off. The buzzer output is no relay, but an open-collector transistor switch to which a small external load, e. g. a buzzer can be connected. Same state as byte 0, bit0
6	Received radio signal strength (RSSI)	uint8	value range 0 – 15 _{dec}	Radio signal strength of the active transmitter. The higher the value, the stronger is the received signal.
7	Active radio channel	uint8	value range 1 – 69 _{dec} at 433 MHz value range 1 – 15 _{dec} at 915 MHz	Radio channel on which the data transmission takes place.
8 - 9	Digital inputs in the receiver	uint16	bit0: digital input 1 bit1: digital input 2 ... bit9: digital input 10 bits11 – 15: unused	Signal state of the digital inputs in the receiver. 1, if the corresponding input is active (= pulled to GND), 0, if the corresponding input is not active (input is open).
10	Buttons of pushbutton transmitter	uint8	bit0: button 3, step 1 bit1: button 3, step 2 bit2: button 4, step 1 bit3: button 4, step 2 bit4: button 5, step 1 bit5: button 5, step 2 bit6: button 6, step 1 bit7: button 6, step 2	Virtual switching state of analogue pushbuttons 3 – 6. 1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
11	Buttons of pushbutton transmitter	uint8	bit0: button 9, step 1 bit1: button 9, step 2 bit2: button 10, step 1 bit3: button 10, step 2 bit4: button 1, step 1 bit5: button 1, step 2 bit6: button 2, step 1 bit7: button 2, step 2	Virtual switching state of analogue pushbuttons 1 – 2 and switching state of the 2-step buttons 9 - 10. 1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
12	Buttons of pushbutton transmitter	uint8	bit0: left Start-button, step 1 bit1: left Start-button, step 2 bit2: right Start-button, step 1 bit3: right Start-button, step 2 bit4: button 7, step 1 bit5: button 7, step 2 bit6: button 8, step 1 bit7: button 8, step 2	Virtual switching state of analogue pushbuttons 7 – 8 and switching state of the 2-step start-buttons. 1, if the corresponding button is pressed, 0, if the corresponding button is not pressed.
13	Unused	uint8		
14	Unused	uint8		
15	Unused	uint8		
16	Unused	int8		
17	Unused	int8		
18	Unused	int8		
19	Unused	int8		
20	Analogue output of buttons 3 and 4	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.
21	Analogue output of buttons 5 and 6	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.
22	Analogue output of buttons 7 and 8	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.
23	Analogue output of buttons 1 and 2	int8	value range -127 _{dec} – 0 – +127 _{dec}	Potentiometer value of analogue pushbuttons, negative values = left-hand button is pressed, 0 = no button is pressed, positive values = right-hand button is pressed.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
24 - 25	Load selection bits	uint16	bit0: Load A active bit1: Load B active bit2: Load C active bit3: Load D active bit4: Load E active bit5: Load F active bit6: Load G active bit7: Load H active bit8: Load I active bit9: Load J active bit10: Load K active bit11: Load L active bit12: Load M active bit13: Load N active bit14: Load O active bit15: Load P active	The load selection bits can be considered as virtual inputs in the TX which can be used for various purposes, e.g. selecting specific receiver outputs. This is a customer-specific functionality and will be documented in the corresponding mapping template. 1, the corresponding load is active, 0, the corresponding load is not active.
26	System Tiger transmitter type	uint8	value range 0 – 7 _{dec}	Type of transmitter currently controlling the receiver. 0: undefined transmitter type 1: transmitter with 6 buttons 2: transmitter with 8 buttons 3: transmitter with 10 buttons 4: transmitter with 12 buttons 5: joystick transmitter of type JD 6: transmitter with 10 buttons, 6 of which are analogue 7: transmitter with 12 buttons, 8 of which are analogue
27	System Tiger transmitter status	uint8	bit0: charge indicator of TX battery bit0 (LSB) bit1: charge indicator of TX battery bit1 (MSB) bit2: TX battery being charged bit3: loss of radio feedback to TX bits4 – 7: unused	Charge indicator, value range 0 – 3. The higher the value, the higher is the remaining battery charge. 1, battery charger connected to the TX, battery is being charged, 0, TX battery is not being charged. 1, loss of radio link from receiver to transmitter. No feedback data can be sent from RX to TX 0, communication between TX and RX is active in both directions.
28	Unused	int8		
29	Unused	int8		
30	Unused	int8		
31	Unused	int8		

Input module System Tiger input module for all transmitter types

refers to all transmitter types, is fixed in the PLC configuration and cannot be removed.

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
32 - 35	Weight sensor value 1	uint32	value range 0 - 2147483647 _{dec}	Measured value of the analogue input module (if existing) in the receiver.
36 - 39	Weight sensor value 2	uint32	value range 0 - 2147483647 _{dec}	Measured value of the analogue input module (if existing) in the receiver.
40 - 43	ID of the active transmitter	uint32	value range 0 - 2147483647 _{dec}	Serial number of the transmitter that is currently controlling the receiver.
44 - 47	ID of the used RFID tag	uint32	value range 0 - 2147483647 _{dec}	Serial number of the RFID tag that was used to unlock the transmitter.

Data mapping of system Tiger Profinet

Output modules 'GSDML-V2.42-Tele Radio GmbH-NIC52RE-Tiger-20220110.xml':

Output module System Tiger output module for all transmitter types without display

refers to the following pushbutton transmitters:

- TG-T9-1: 8 two-step pushbuttons, 8 red LEDs, without display, 433 MHz
- TG-T9-11: 8 two-step pushbuttons, 8 red LEDs, without display, 915 MHz
- TG-T11-5: 12 two-step pushbuttons, 12 red LEDs, without display, 433 MHz
- TG-T11-15: 12 two-step pushbuttons, 12 red LEDs, without display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	Fieldbus output byte 0	uint8	bit0: TX-LED 1 on/off bit1: TX-LED 2 on/off bit2: TX-LED 3 on/off bit3: TX-LED 4 on/off bit4: TX-LED 5 on/off bit5: TX-LED 6 on/off bit6: TX-LED 7 on/off bit7: TX-LED 8 on/off	1, corresponding LED (if available in the TX) will be switched on, 0, corresponding LED in the TX will be switched off.
1	Fieldbus output byte 1	uint8	bit0: TX-LED 9 on/off bit1: TX-LED 10 on/off bit2: left start-button-LED on/off bit3: right start-button-LED on/off bit4: buzzer in the TX on/off bits5 – 7: unused	1, corresponding LED (if available in the TX) will be switched on, 0, corresponding LED in the TX will be switched off. 1, buzzer in the TX will be switched on, 0, buzzer in the TX will be switched off.
2	Fieldbus output byte 2	uint8	bit0: TX-LED 1 flashing bit1: TX-LED 2 flashing bit2: TX-LED 3 flashing bit3: TX-LED 4 flashing bit4: TX-LED 5 flashing bit5: TX-LED 6 flashing bit6: TX-LED 7 flashing bit7: TX-LED 8 flashing	1, corresponding LED (if available in the TX) flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off.
3	Fieldbus output byte 3	uint8	bit0: TX-LED 9 flashing bit1: TX-LED 10 flashing bit2: left start-button-LED flash- ing bit3: right start-button-LED flash- ing bit4: buzzer in the TX on/off bits5 – 7: unused	1, corresponding LED (if available in the TX) flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off. 1, buzzer in the TX will be switched on, 0, buzzer in the TX will be switched off.
4	Fieldbus output byte 4	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
5	Fieldbus output byte 5	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
6	Fieldbus output byte 6	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
7	Fieldbus output byte 7	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
8	Fieldbus output byte 8	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
9	Fieldbus output byte 9	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
10	Fieldbus output byte 10	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
11	Fieldbus output byte 11	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
12	Fieldbus output byte 12	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
13	Fieldbus output byte 13	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
14	Fieldbus output byte 14	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
15	Fieldbus output byte 15	uint8	value range 0 – 255 _{dec}	spare for customer-specific use
16	Fieldbus output byte 16	uint8	bit0: receiver relay 1 on/off bit1: receiver relay 2 on/off bit2: receiver relay 3 on/off bit3: receiver relay 4 on/off bit4: receiver relay 5 on/off bit5: receiver relay 6 on/off bit6: receiver relay 7 on/off bit7: receiver relay 8 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
17	Fieldbus output byte 17	uint8	bit0: receiver relay 9 on/off bit1: receiver relay 10 on/off bit2: receiver relay 11 on/off bit3: receiver relay 12 on/off bit4: receiver relay 13 on/off bit5: receiver relay 14 on/off bit6: receiver relay 15 on/off bit7: receiver relay 16 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
18	Fieldbus output byte 18	uint8	bit0: receiver relay 17 on/off bit1: receiver relay 18 on/off bit2: receiver relay 19 on/off bit3: receiver relay 20 on/off bit4: receiver relay 21 on/off bit5: receiver relay 22 on/off bit6: receiver relay 23 on/off bit7: receiver relay 24 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
19	Fieldbus output byte 19	uint8	bit0: receiver relay 25 on/off bit1: receiver relay 26 on/off bit2: receiver relay 27 on/off bit3: receiver relay 28 on/off bit4: receiver relay 29 on/off bit5: receiver relay 30 on/off bit6: receiver relay 31 on/off bit7: receiver relay 32 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
20 - 21	Receiver analogue output 1	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
22 - 23	Receiver analogue output 2	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
24 - 25	Receiver analogue output 3	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
26 - 27	Receiver analogue output 4	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
28	Unused	uint8		
29	Unused	uint8		
30	Unused	uint8		
31	Unused	uint8		

Data mapping of system Tiger Profinet

Output module System Tiger output module for all transmitter types with display (ASCII feedbacks)

refers to the following pushbutton transmitters:

- TG-T9-2: 6 two-step pushbuttons, 6 red LEDs, LCD-display, 433 MHz
- TG-T9-12: 6 two-step pushbuttons, 6 red LEDs, LCD-display, 915 MHz
- TG-T11-4: 10 two-step pushbuttons, 10 red LEDs, LCD-display, 433 MHz
- TG-T11-14: 10 two-step pushbuttons, 10 red LEDs, LCD-display, 915 MHz
- TG-T14-7: 4 two-step pushbuttons, 6 analogue buttons, 10 red LEDs, LCD-display, 433 MHz
- TG-T14-8: 4 two-step pushbuttons, 6 analogue buttons, 10 red LEDs, LCD-display, 915 MHz
- TG-T15-7: 4 two-step pushbuttons, 8 analogue buttons, 12 red LEDs, LCD-display, 433 MHz
- TG-T15-8: 4 two-step pushbuttons, 8 analogue buttons, 12 red LEDs, LCD-display, 915 MHz

The display can show up to 13 ASCII characters in one line, where the position of character 1 is leftmost and of character 13 is rightmost in the display line.

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	ASCII character 1	uint8	value range 32 _{dec} – 127 _{dec}	Leftmost character in the display line.
1	ASCII character 2	uint8	value range 32 _{dec} – 127 _{dec}	
2	ASCII character 3	uint8	value range 32 _{dec} – 127 _{dec}	
3	ASCII character 4	uint8	value range 32 _{dec} – 127 _{dec}	
4	ASCII character 5	uint8	value range 32 _{dec} – 127 _{dec}	
5	ASCII character 6	uint8	value range 32 _{dec} – 127 _{dec}	
6	ASCII character 7	uint8	value range 32 _{dec} – 127 _{dec}	
7	ASCII character 8	uint8	value range 32 _{dec} – 127 _{dec}	
8	ASCII character 9	uint8	value range 32 _{dec} – 127 _{dec}	
9	ASCII character 10	uint8	value range 32 _{dec} – 127 _{dec}	
10	ASCII character 11	uint8	value range 32 _{dec} – 127 _{dec}	
11	ASCII character 12	uint8	value range 32 _{dec} – 127 _{dec}	
12	ASCII character 13	uint8	value range 32 _{dec} – 127 _{dec}	Rightmost character in the display line.
13	Fieldbus output byte 13	uint8	bit0: TX-LED 1 on/off bit1: TX-LED 2 on/off bit2: TX-LED 3 on/off bit3: TX-LED 4 on/off bit4: TX-LED 5 on/off bit5: TX-LED 6 on/off bit6: TX-LED 7 on/off bit7: TX-LED 8 on/off	1, corresponding LED (if available in the TX) will be switched on, 0, corresponding LED in the TX will be switched off.
14	Fieldbus output byte 14	uint8	bit0: left start-button-LED on/off bit1: right start-button-LED on/off bit2: TX-LED 1 flashing bit3: TX-LED 2 flashing bit4: TX-LED 3 flashing bit5: TX-LED 4 flashing bit6: TX-LED 5 flashing bit7: TX-LED 6 flashing	1, corresponding LED in the TX will be switched on, 0, corresponding LED in the TX will be switched off. 1, corresponding LED (if available in the TX) flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off.
15	Fieldbus output byte 15	uint8	bit0: TX-LED 7 flashing bit1: TX-LED 8 flashing bit2: left start-button-LED flashing bit3: right start-button-LED flashing bit4: buzzer in the TX on/off bits5 – 7: unused	1, corresponding LED (if available in the TX) flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off. 1, buzzer in the TX will be switched on, 0, buzzer in the TX will be switched off.
16	Fieldbus output byte 16	uint8	bit0: receiver relay 1 on/off bit1: receiver relay 2 on/off bit2: receiver relay 3 on/off bit3: receiver relay 4 on/off bit4: receiver relay 5 on/off bit5: receiver relay 6 on/off bit6: receiver relay 7 on/off bit7: receiver relay 8 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
17	Fieldbus output byte 17	uint8	bit0: receiver relay 9 on/off bit1: receiver relay 10 on/off bit2: receiver relay 11 on/off bit3: receiver relay 12 on/off bit4: receiver relay 13 on/off bit5: receiver relay 14 on/off bit6: receiver relay 15 on/off bit7: receiver relay 16 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
18	Fieldbus output byte 18	uint8	bit0: receiver relay 17 on/off bit1: receiver relay 18 on/off bit2: receiver relay 19 on/off bit3: receiver relay 20 on/off bit4: receiver relay 21 on/off bit5: receiver relay 22 on/off bit6: receiver relay 23 on/off bit7: receiver relay 24 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
19	Fieldbus output byte 19	uint8	bit0: receiver relay 25 on/off bit1: receiver relay 26 on/off bit2: receiver relay 27 on/off bit3: receiver relay 28 on/off bit4: receiver relay 29 on/off bit5: receiver relay 30 on/off bit6: receiver relay 31 on/off bit7: receiver relay 32 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
20 - 21	Receiver analogue output 1	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
22 - 23	Receiver analogue output 2	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
24 - 25	Receiver analogue output 3	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
26 - 27	Receiver analogue output 4	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
28	Unused	uint8		
29	Unused	uint8		
30	Unused	uint8		
31	Unused	uint8		

Data mapping of system Tiger Profinet

Output module System Tiger output module for all joystick transmitters with display (ASCII feedbacks)

refers to the following customer-specific transmitters which can be equipped with joysticks, paddles, potentiometers, pushbuttons, toggle switches, rocker switches, rotary switches, etc. All transmitters of this type are also equipped with an LCD-display on which the system status (battery charge, radio channel and signal strength) and feedback data from the receiver to the transmitter can be displayed.

- TG-T12-20: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-30: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-25: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-35: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-24: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-23: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-33: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-22: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-21: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-31: console transmitter, customer-specific, LCD-display, 915 MHz

The display can show up to 13 ASCII characters in one line, where the position of character 1 is leftmost and of character 13 is rightmost in the display line.

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0	ASCII character 1	uint8	value range 32 _{dec} – 127 _{dec}	Leftmost character in the display line.
1	ASCII character 2	uint8	value range 32 _{dec} – 127 _{dec}	
2	ASCII character 3	uint8	value range 32 _{dec} – 127 _{dec}	
3	ASCII character 4	uint8	value range 32 _{dec} – 127 _{dec}	
4	ASCII character 5	uint8	value range 32 _{dec} – 127 _{dec}	
5	ASCII character 6	uint8	value range 32 _{dec} – 127 _{dec}	
6	ASCII character 7	uint8	value range 32 _{dec} – 127 _{dec}	
7	ASCII character 8	uint8	value range 32 _{dec} – 127 _{dec}	
8	ASCII character 9	uint8	value range 32 _{dec} – 127 _{dec}	
9	ASCII character 10	uint8	value range 32 _{dec} – 127 _{dec}	
10	ASCII character 11	uint8	value range 32 _{dec} – 127 _{dec}	
11	ASCII character 12	uint8	value range 32 _{dec} – 127 _{dec}	
12	ASCII character 13	uint8	value range 32 _{dec} – 127 _{dec}	Rightmost character in the display line.
13	Fieldbus output byte 13	uint8	bit0: left dual color TX-LED red on/off bit1: left dual color TX-LED green on/off bit2: right dual color TX-LED red on/off bit3: right dual color TX-LED green on/off bits4 – 7: unused	1, corresponding LED in the TX will be switched on, 0, corresponding LED in the TX will be switched off.
14	Fieldbus output byte 14	uint8	bits0 – 1: unused bit2: left dual color TX-LED red flashing bit3: left dual color TX-LED green flashing bit4: right dual color TX-LED red flashing bit5: right dual color TX-LED green flashing bits6 – 7: unused	1, corresponding LED in the TX flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off.
15	Fieldbus output byte 15	uint8	bits0 – 3: unused bit4: buzzer in the TX on/off bits5 – 7: unused	1, buzzer in the TX will be switched on, 0, buzzer in the TX will be switched off.
16	Fieldbus output byte 16	uint8	bit0: receiver relay 1 on/off bit1: receiver relay 2 on/off bit2: receiver relay 3 on/off bit3: receiver relay 4 on/off bit4: receiver relay 5 on/off bit5: receiver relay 6 on/off bit6: receiver relay 7 on/off bit7: receiver relay 8 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
17	Fieldbus output byte 17	uint8	bit0: receiver relay 9 on/off bit1: receiver relay 10 on/off bit2: receiver relay 11 on/off bit3: receiver relay 12 on/off bit4: receiver relay 13 on/off bit5: receiver relay 14 on/off bit6: receiver relay 15 on/off bit7: receiver relay 16 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
18	Fieldbus output byte 18	uint8	bit0: receiver relay 17 on/off bit1: receiver relay 18 on/off bit2: receiver relay 19 on/off bit3: receiver relay 20 on/off bit4: receiver relay 21 on/off bit5: receiver relay 22 on/off bit6: receiver relay 23 on/off bit7: receiver relay 24 on/off	1, corresponding relay (if available) will be activated by PLC. 0, corresponding relay (if available) will be deactivated by PLC.
19	Fieldbus output byte 19	uint8	bit0: receiver relay 25 on/off bit1: receiver relay 26 on/off bit2: receiver relay 27 on/off bit3: receiver relay 28 on/off bit4: receiver relay 29 on/off bit5: receiver relay 30 on/off bit6: receiver relay 31 on/off bit7: receiver relay 32 on/off	1, corresponding relay (if available) will be activated by PLC. 0, corresponding relay (if available) will be deactivated by PLC.
20 - 21	Receiver analogue output 1	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
22 - 23	Receiver analogue output 2	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
24 - 25	Receiver analogue output 3	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
26 - 27	Receiver analogue output 4	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
28	Unused	uint8		
29	Unused	uint8		
30	Unused	uint8		
31	Unused	uint8		

Data mapping of system Tiger Profinet

Output modules 'GSDML-V2.42-Tele Radio GmbH-NIC52RE-Tiger-20230308.xml':

Output module System Tiger output module for all transmitter types without display

refers to the following pushbutton transmitters:

- TG-T9-1: 8 two-step pushbuttons, 8 red LEDs, without display, 433 MHz
- TG-T9-11: 8 two-step pushbuttons, 8 red LEDs, without display, 915 MHz
- TG-T11-5: 12 two-step pushbuttons, 12 red LEDs, without display, 433 MHz
- TG-T11-15: 12 two-step pushbuttons, 12 red LEDs, without display, 915 MHz

Data mapping:

Byte no.	Name	Data type	Byte / bit mapping	Explanation
0 - 3	Fieldbus output DWord 1	uint32	bit0: TX-LED 9 on/off bit1: TX-LED 10 on/off bit2: left start-button-LED on/off bit3: right start-button-LED on/off bit4: buzzer in the TX on/off bits5 – 7: unused bit8: TX-LED 1 on/off bit9: TX-LED 2 on/off bit10: TX-LED 3 on/off bit11: TX-LED 4 on/off bit12: TX-LED 5 on/off bit13: TX-LED 6 on/off bit14: TX-LED 7 on/off bit15: TX-LED 8 on/off bit16: TX-LED 9 flashing bit17: TX-LED 10 flashing bit18: left start-button-LED flash- ing bit19: right start-button-LED flashing bit20: buzzer in the TX on/off bits21 – 23: unused bit24: TX-LED 1 flashing bit25: TX-LED 2 flashing bit26: TX-LED 3 flashing bit27: TX-LED 4 flashing bit28: TX-LED 5 flashing bit29: TX-LED 6 flashing bit30: TX-LED 7 flashing bit31: TX-LED 8 flashing	The listed byte and bit mapping shows the standard con- figuraton which might differ in customer-specific arrange- ments. Please see the documentation which comes with the radio control for details. 1, corresponding LED (if available in the TX) will be switched on resp. flashes, 0, corresponding LED in the TX will be switched off.
4 - 7	Fieldbus output DWord 2	Uint32	value range 0 – FFFFFFFF _{hex}	spare for customer-specific use
8 - 11	Fieldbus output DWord 3	Uint32	value range 0 – FFFFFFFF _{hex}	spare for customer-specific use
12 - 15	Fieldbus output DWord 4	Uint32	value range 0 – FFFFFFFF _{hex}	spare for customer-specific use
16	Fieldbus output byte 16	uint8	bit0: receiver relay 1 on/off bit1: receiver relay 2 on/off bit2: receiver relay 3 on/off bit3: receiver relay 4 on/off bit4: receiver relay 5 on/off bit5: receiver relay 6 on/off bit6: receiver relay 7 on/off bit7: receiver relay 8 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
17	Fieldbus output byte 17	uint8	bit0: receiver relay 9 on/off bit1: receiver relay 10 on/off bit2: receiver relay 11 on/off bit3: receiver relay 12 on/off bit4: receiver relay 13 on/off bit5: receiver relay 14 on/off bit6: receiver relay 15 on/off bit7: receiver relay 16 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
18	Fieldbus output byte 18	uint8	bit0: receiver relay 17 on/off bit1: receiver relay 18 on/off bit2: receiver relay 19 on/off bit3: receiver relay 20 on/off bit4: receiver relay 21 on/off bit5: receiver relay 22 on/off bit6: receiver relay 23 on/off bit7: receiver relay 24 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
19	Fieldbus output byte 19	uint8	bit0: receiver relay 25 on/off bit1: receiver relay 26 on/off bit2: receiver relay 27 on/off bit3: receiver relay 28 on/off bit4: receiver relay 29 on/off bit5: receiver relay 30 on/off bit6: receiver relay 31 on/off bit7: receiver relay 32 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
20 - 21	Receiver analogue output 1	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
22 - 23	Receiver analogue output 2	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
24 - 25	Receiver analogue output 3	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
26 - 27	Receiver analogue output 4	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
28	Unused	uint8		
29	Unused	uint8		
30	Unused	uint8		
31	Unused	uint8		

Data mapping of system Tiger Profinet

Output module System Tiger output module for all pushbutton transmitters with display (DWord feedbacks)

refers to the following pushbutton transmitters:

- TG-T9-2: 6 two-step pushbuttons, 6 red LEDs, LCD-display, 433 MHz
- TG-T9-12: 6 two-step pushbuttons, 6 red LEDs, LCD-display, 915 MHz
- TG-T11-4: 10 two-step pushbuttons, 10 red LEDs, LCD-display, 433 MHz
- TG-T11-14: 10 two-step pushbuttons, 10 red LEDs, LCD-display, 915 MHz
- TG-T14-7: 4 two-step pushbuttons, 6 analogue buttons, 10 red LEDs, LCD-display, 433 MHz
- TG-T14-8: 4 two-step pushbuttons, 6 analogue buttons, 10 red LEDs, LCD-display, 915 MHz
- TG-T15-7: 4 two-step pushbuttons, 8 analogue buttons, 12 red LEDs, LCD-display, 433 MHz
- TG-T15-8: 4 two-step pushbuttons, 8 analogue buttons, 12 red LEDs, LCD-display, 915 MHz

The display can show up to 13 ASCII characters in one line, where the position of character 1 is leftmost and of character 13 is rightmost in the display line. Alternatively, the corresponding byte and bit positions can be used for customer-specific feedback data. Please see the documentation which comes with the remote control for detailed information.

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0 - 3	Fieldbus output DWord 1	UInt32	value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec}	Byte 0 (LSB): ASCII character 2 Byte 1: ASCII character 1 (leftmost character in the display line) Byte 2: ASCII character 4 Byte 3: ASCII character 3
4 - 7	Fieldbus output DWord 2	UInt32	value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec}	Byte 0 (LSB): ASCII character 6 Byte 1: ASCII character 5 Byte 2: ASCII character 8 Byte 3: ASCII character 7
8 - 11	Fieldbus output DWord 3	UInt32	value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec}	Byte 0 (LSB): ASCII character 10 Byte 1: ASCII character 9 Byte 2: ASCII character 12 Byte 3: ASCII character 11
12 - 15	Fieldbus output DWord 4	UInt32	bit0: TX-LED 1 on/off bit1: TX-LED 2 on/off bit2: TX-LED 3 on/off bit3: TX-LED 4 on/off bit4: TX-LED 5 on/off bit5: TX-LED 6 on/off bit6: TX-LED 7 on/off bit7: TX-LED 8 on/off Byte 1 (bits8 – 15) value range 32 _{dec} – 127 _{dec} bit16: TX-LED 7 flashing bit17: TX-LED 8 flashing bit18: left start-button-LED flashing bit19: right start-button-LED flashing bit20: buzzer in the TX on/off bits21 – 23: unused bit24: left start-button-LED on/off bit25: right start-button-LED on/off bit26: TX-LED 1 flashing bit27: TX-LED 2 flashing bit28: TX-LED 3 flashing bit29: TX-LED 4 flashing bit30: TX-LED 5 flashing bit31: TX-LED 6 flashing	1, corresponding LED (if available in the TX) will be switched on, 0, corresponding LED in the TX will be switched off. ASCII character 13 (rightmost character in the display line). 1, corresponding LED (if available in the TX) flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off. 1, buzzer in the TX will be switched on, 0, buzzer in the TX will be switched off.
16	Fieldbus output byte 16	uint8	bit0: receiver relay 1 on/off bit1: receiver relay 2 on/off bit2: receiver relay 3 on/off bit3: receiver relay 4 on/off bit4: receiver relay 5 on/off bit5: receiver relay 6 on/off bit6: receiver relay 7 on/off bit7: receiver relay 8 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
17	Fieldbus output byte 17	uint8	bit0: receiver relay 9 on/off bit1: receiver relay 10 on/off bit2: receiver relay 11 on/off bit3: receiver relay 12 on/off bit4: receiver relay 13 on/off bit5: receiver relay 14 on/off bit6: receiver relay 15 on/off bit7: receiver relay 16 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
18	Fieldbus output byte 18	uint8	bit0: receiver relay 17 on/off bit1: receiver relay 18 on/off bit2: receiver relay 19 on/off bit3: receiver relay 20 on/off bit4: receiver relay 21 on/off bit5: receiver relay 22 on/off bit6: receiver relay 23 on/off bit7: receiver relay 24 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
19	Fieldbus output byte 19	uint8	bit0: receiver relay 25 on/off bit1: receiver relay 26 on/off bit2: receiver relay 27 on/off bit3: receiver relay 28 on/off bit4: receiver relay 29 on/off bit5: receiver relay 30 on/off bit6: receiver relay 31 on/off bit7: receiver relay 32 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
20 - 21	Receiver analogue output 1	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
22 - 23	Receiver analogue output 2	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
24 - 25	Receiver analogue output 3	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
26 - 27	Receiver analogue output 4	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
28	Unused	uint8		
29	Unused	uint8		
30	Unused	uint8		
31	Unused	uint8		

Data mapping of system Tiger Profinet

Output module System Tiger output module for all joystick transmitters with display (DWord feedbacks)

refers to the following customer-specific transmitters which can be equipped with joysticks, paddles, potentiometers, pushbuttons, toggle switches, rocker switches, rotary switches, etc. All transmitters of this type are also equipped with an LCD-display on which the system status (battery charge, radio channel and signal strength) and feedback data from the receiver to the transmitter can be displayed.

- TG-T12-20: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-30: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-25: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-35: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-24: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-23: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-33: console transmitter, customer-specific, LCD-display, 915 MHz
- TG-T12-22: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-21: console transmitter, customer-specific, LCD-display, 433 MHz
- TG-T12-31: console transmitter, customer-specific, LCD-display, 915 MHz

The display can show up to 13 ASCII characters in one line, where the position of character 1 is leftmost and of character 13 is rightmost in the display line. Alternatively, the corresponding byte and bit positions can be used for customer-specific feedback data. Please see the documentation which comes with the remote control for detailed information.

Data mapping:

Byte no.	Name	Data type	Bit mapping	Explanation
0 - 3	Fieldbus output DWord 1	UInt32	value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec}	Byte 0 (LSB): ASCII character 2 Byte 1: ASCII character 1 (leftmost character in the display line) Byte 2: ASCII character 4 Byte 3: ASCII character 3
4 - 7	Fieldbus output DWord 2	UInt32	value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec}	Byte 0 (LSB): ASCII character 6 Byte 1: ASCII character 5 Byte 2: ASCII character 8 Byte 3: ASCII character 7
8 - 11	Fieldbus output DWord 3	UInt32	value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec} value range 32 _{dec} – 127 _{dec}	Byte 0 (LSB): ASCII character 10 Byte 1: ASCII character 9 Byte 2: ASCII character 12 Byte 3: ASCII character 11
12 - 15	Fieldbus output DWord 4	UInt32	bit0: left dual color TX-LED red on/off bit1: left dual color TX-LED green on/off bit2: right dual color TX-LED red on/off bit3: right dual color TX-LED green on/off bits4 – 7: unused Byte 1 (bits8 – 15) value range 32 _{dec} – 127 _{dec} bits16 – 19: unused bit20: buzzer in the TX on/off bits21 – 23: unused bits24 – 25: unused bit26: left dual color TX-LED red flashing bit27: left dual color TX-LED green flashing bit28: right dual color TX-LED red flashing bit29: right dual color TX-LED green flashing bits30 – 31: unused	1, corresponding LED (if available in the TX) will be switched on, 0, corresponding LED in the TX will be switched off. ASCII character 13 (rightmost character in the display line) buzzer in the TX will be switched on, 0, buzzer in the TX will be switched off. 1, corresponding LED in the TX flashing 500 ms on/500 ms off, 0, corresponding LED in the TX will be switched off.
16	Fieldbus output byte 16	uint8	bit0: receiver relay 1 on/off bit1: receiver relay 2 on/off bit2: receiver relay 3 on/off bit3: receiver relay 4 on/off bit4: receiver relay 5 on/off bit5: receiver relay 6 on/off bit6: receiver relay 7 on/off bit7: receiver relay 8 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.
17	Fieldbus output byte 17	uint8	bit0: receiver relay 9 on/off bit1: receiver relay 10 on/off bit2: receiver relay 11 on/off bit3: receiver relay 12 on/off bit4: receiver relay 13 on/off bit5: receiver relay 14 on/off bit6: receiver relay 15 on/off bit7: receiver relay 16 on/off	1, corresponding relay (if available) will be activated by PLC, 0, corresponding relay (if available) will be deactivated by PLC.

Data mapping of system Tiger Profinet

Byte no.	Name	Data type	Bit mapping	Explanation
18	Fieldbus output byte 18	uint8	bit0: receiver relay 17 on/off bit1: receiver relay 18 on/off bit2: receiver relay 19 on/off bit3: receiver relay 20 on/off bit4: receiver relay 21 on/off bit5: receiver relay 22 on/off bit6: receiver relay 23 on/off bit7: receiver relay 24 on/off	1, corresponding relay (if available) will be activated by PLC. 0, corresponding relay (if available) will be deactivated by PLC.
19	Fieldbus output byte 19	uint8	bit0: receiver relay 25 on/off bit1: receiver relay 26 on/off bit2: receiver relay 27 on/off bit3: receiver relay 28 on/off bit4: receiver relay 29 on/off bit5: receiver relay 30 on/off bit6: receiver relay 31 on/off bit7: receiver relay 32 on/off	1, corresponding relay (if available) will be activated by PLC. 0, corresponding relay (if available) will be deactivated by PLC.
20 - 21	Receiver analogue output 1	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
22 - 23	Receiver analogue output 2	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
24 - 25	Receiver analogue output 3	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
26 - 27	Receiver analogue output 4	int16	value range $-32767_{dec} - +32767_{dec}$	Analogue output value (if available) in the receiver, can be set by PLC.
28	Unused	uint8		
29	Unused	uint8		
30	Unused	uint8		
31	Unused	uint8		

Data mapping of system Tiger Profinet

Table of supported ASCII characters

32	dec	20	hex	00100000	SPACE	48	dec	30	hex	00110000	0	64	dec	40	hex	01000000	@
33	dec	21	hex	00100001	!	49	dec	31	hex	00110001	1	65	dec	41	hex	01000001	A
34	dec	22	hex	00100010	"	50	dec	32	hex	00110010	2	66	dec	42	hex	01000010	B
35	dec	23	hex	00100011	#	51	dec	33	hex	00110011	3	67	dec	43	hex	01000011	C
36	dec	24	hex	00100100	\$	52	dec	34	hex	00110100	4	68	dec	44	hex	01000100	D
37	dec	25	hex	00100101	%	53	dec	35	hex	00110101	5	69	dec	45	hex	01000101	E
38	dec	26	hex	00100110	&	54	dec	36	hex	00110110	6	70	dec	46	hex	01000110	F
39	dec	27	hex	00100111	'	55	dec	37	hex	00110111	7	71	dec	47	hex	01000111	G
40	dec	28	hex	00101000	(	56	dec	38	hex	00111000	8	72	dec	48	hex	01001000	H
41	dec	29	hex	00101001	)	57	dec	39	hex	00111001	9	73	dec	49	hex	01001001	I
42	dec	2A	hex	00101010	*	58	dec	3A	hex	00111010	:	74	dec	4A	hex	01001010	J
43	dec	2B	hex	00101011	+	59	dec	3B	hex	00111011	;	75	dec	4B	hex	01001011	K
44	dec	2C	hex	00101100	,	60	dec	3C	hex	00111100	<	76	dec	4C	hex	01001100	L
45	dec	2D	hex	00101101	-	61	dec	3D	hex	00111101	=	77	dec	4D	hex	01001101	M
46	dec	2E	hex	00101110	.	62	dec	3E	hex	00111110	>	78	dec	4E	hex	01001110	N
47	dec	2F	hex	00101111	/	63	dec	3F	hex	00111111	?	79	dec	4F	hex	01001111	O
80	dec	50	hex	01010000	P	96	dec	60	hex	01100000	'	112	dec	70	hex	01110000	p
81	dec	51	hex	01010001	Q	97	dec	61	hex	01100001	a	113	dec	71	hex	01110001	q
82	dec	52	hex	01010010	R	98	dec	62	hex	01100010	b	114	dec	72	hex	01110010	r
83	dec	53	hex	01010011	S	99	dec	63	hex	01100011	c	115	dec	73	hex	01110011	s
84	dec	54	hex	01010100	T	100	dec	64	hex	01100100	d	116	dec	74	hex	01110100	t
85	dec	55	hex	01010101	U	101	dec	65	hex	01100101	e	117	dec	75	hex	01110101	u
86	dec	56	hex	01010110	V	102	dec	66	hex	01100110	f	118	dec	76	hex	01110110	v
87	dec	57	hex	01010111	W	103	dec	67	hex	01100111	g	119	dec	77	hex	01110111	w
88	dec	58	hex	01011000	X	104	dec	68	hex	01101000	h	120	dec	78	hex	01111000	x
89	dec	59	hex	01011001	Y	105	dec	69	hex	01101001	i	121	dec	79	hex	01111001	y
90	dec	5A	hex	01011010	Z	106	dec	6A	hex	01101010	j	122	dec	7A	hex	01111010	z
91	dec	5B	hex	01011011	[	107	dec	6B	hex	01101011	k	123	dec	7B	hex	01111011	{
92	dec	5C	hex	01011100	¥	108	dec	6C	hex	01101100	l	124	dec	7C	hex	01111100	|
93	dec	5D	hex	01011101	]	109	dec	6D	hex	01101101	m	125	dec	7D	hex	01111101	}
94	dec	5E	hex	01011110	^	110	dec	6E	hex	01101110	n	126	dec	7E	hex	01111110	_
95	dec	5F	hex	01011111	_	111	dec	6F	hex	01101111	o	127	dec	7F	hex	01111111	

Data mapping of system Tiger Profinet

Version history of this document

Version	Author	Date	Comments
V1	WP	12.04.2022	Initial document
V2	WP	02.06.2025	Various corrections in the naming of the bits of the Fieldbus output byte 3