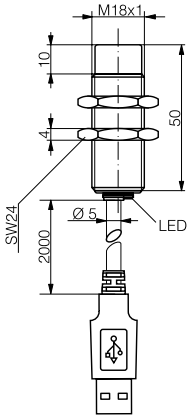
HF RFID SYSTEM
READ/WRITE MODULES (RWM)
RLS-1xx1-220-xxx

HOUSING	READ/WRITE DISTANCE
M18	34 mm
M30	58 mm

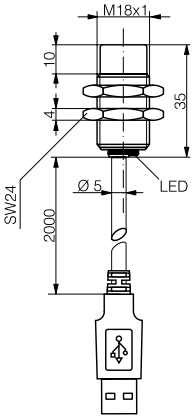
- ✓ Metal threaded housing
- ✓ Sensing face of PBTP
- ✓ Insensitive to dirt
- ✓ ISO 15693 compatible
- ✓ USB RWM using ContriNET protocol
- ✓ Cost optimized solution



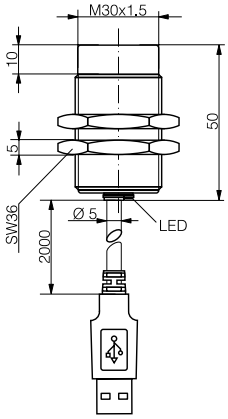




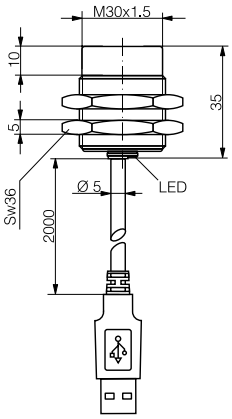
RLS-1181-220



RLS-1181-220-120



RLS-1301-220



RLS-1301-220-120

GENERAL DATA

Carrier frequency	13.56 MHz
Compatible standard	ISO 15693
Maximum transmission speed	26.5 kbit/s
Read-write distance max. (RSSI ≥ 0)	RLS-1181-220-xxx: 34 mm
with Ø50 mm transponder	RLS-1301-220-xxx: 58 mm

INTERFACE

USB/VCP configuration	
Data transfer rate	115,200 baud
Number of bits 7 / stop bits / parity	8 / 1 / None
RWM configuration	
LED yellow on	RWM live
LED yellow blinking	Transponder detected
ContriNET protocol	✓

ELECTRICAL DATA

Supply voltage range (Ub)	5 VDC (USB powered)
No-load supply current (field off)	100 mA
Max. current consumption (no load)	200 mA
Polling current	120 mA
Short-circuit protection	✓
Voltage reversal protection	✓
Max. output current	

MECHANICAL DATA

Protection degree	IP67
Ambient temperature range TA*	−20 … +70°C
Storage temperature range TS**	−20 … +70°C
Sensing face material	PBTP
Housing material	Stainless steel
Connector type / Cable length	USB A male / 2 m
Weight	See table “Available types” (p. 2)

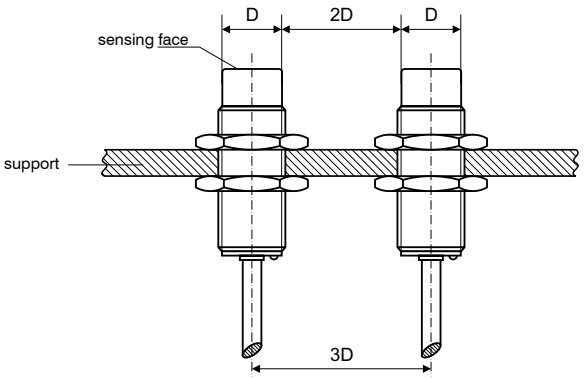
* Read/write operations possible

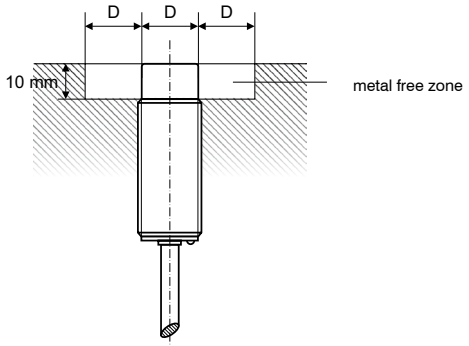
** Data retention and mechanical stability limit

MOUNTING RECOMMENDATIONS

CLEARANCE

Read/write modules must not mutually influence each other. For this reason, a minimum distance of 2× D between the devices must be observed.



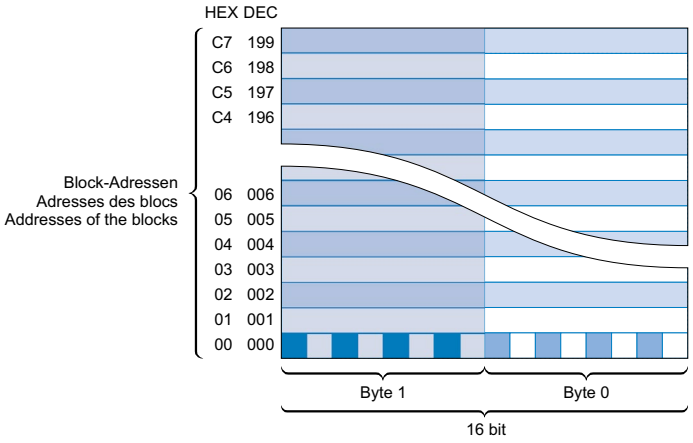


COMMUNICATION SETTINGS

USB/VCP characteristics	Value
Data transfer rate	115,200
Number of bits	8
Number of stop bits	1
Parity	No

MEMORY STRUCTURE OF THE READ/WRITE MODULE

The Read/Write Module has a user memory of 3200 bits organized in 200 blocks of 16 bits. Each block is addressable separately by means of the commands Write RWM and Read RWM.



AVAILABLE TYPES

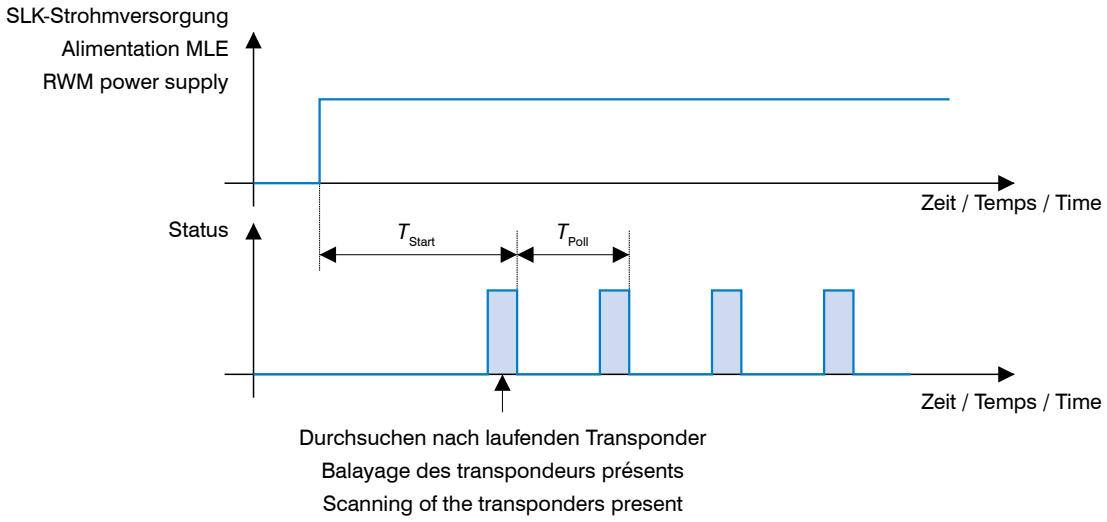
Part number	Part reference	⌀	Mounting	Connection / Cable length	Weight
720-100-108	RLS-1181-220	M18	Non-embeddable	USB A male / 2 m	107 g
720-100-106	RLS-1181-220-120	M18	Non-embeddable	USB A male / 2 m	97 g
720-100-109	RLS-1301-220	M30	Non-embeddable	USB A male / 2 m	165 g
720-100-107	RLS-1301-220-120	M30	Non-embeddable	USB A male / 2 m	144 g

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TYPICAL TIMES

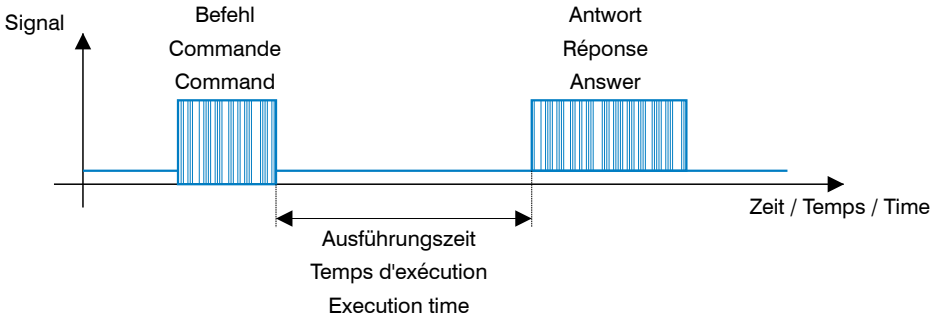
Time name	Description	Value
Starting times	Time between the powering of the RWM and the end of the first scanning of the transponders present	**300 ms**
Polling time	Time for actualization of the list of the transponders present. This time depends on the number of collisions.	**70* ms**
Execution time of the commands	The execution time is defined as the time between the end of the sending of the command and the beginning of the answer	**Command dependent**

* Polling time for 16 transponders without collision



TYPICAL EXECUTION TIMES BY COMMAND TYPE

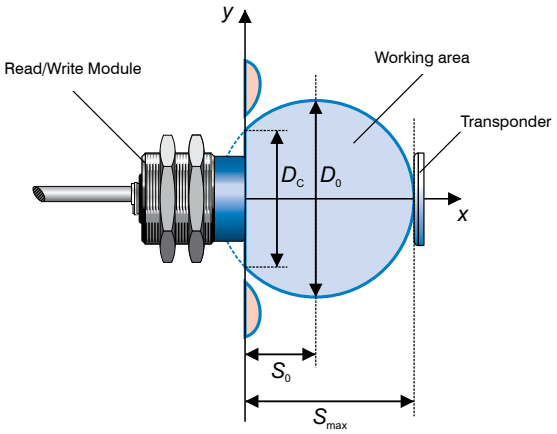
Command type	Description		Value
Commands related to RWM	Typical execution time		**1.5 ms**
Commands related to Transponder depending on number of blocks	Typical read duration: $T_R = T_0 + N \cdot T_{R0}$ Typical write duration: $T_W = T_0 + N \cdot T_{W0}$	Duration for decoding the command – T_0	**12.0 ms**
		Read duration for one block (32 bits) – T_{R0}	**8.0 ms**
		Write duration for one block (32 bits) – T_{W0}	**12.0 ms**
		Number of blocks concerned – N	
Commands related to Transponder not related to a number of blocks	Typical execution time (e.g. Get System Info, Write AFI, Lock AFI, Write DSFID, Lock DSFID, and so on)		**30 ms**



POSSIBLE COMBINATION AND TYPICAL DISTANCE (RSSI ≥ 1)

	RLS-1181-220 & RLS-1181-220-120			RLS-1301-220 & RLS-1301-220-120		
Transponder type	**S_{max} [mm]**	**S_0 [mm]**	**D_0 [mm]**	**S_{max} [mm]**	**S_0 [mm]**	**D_0 [mm]**
Ø 9 RTP-0090-020	11	3.5	15	17	5.5	24
Ø 16 RTP-0160-020	19	8.5	22	28	13	31
Ø 20 RTH-D20QA-ND0	17	6	21	26	11.5	31
Ø 26 RTP-0263-020	15	4	21	33	15	36
Ø 30 RTH-D30QA-ND0	19	5	28	34	15	38
Ø 50 RTH-D50QA-ND0	20	0	44	44	18	54
Ø 20 RTH-D20QA-NC0	19	8	23	26	11	30
Ø 30 RTH-D30QA-NC0	16	3.5	25	36	16	40
Ø 50 RTH-D50QA-NC0	24	6	42	46	19	54
Ø 50 RTP-0502-022	34	10	42	50	23	54
Ø 50 RTP-0502-062	20	4	39	46	20	52

* Speed values for a distance between RWM and transponder set to S_0 and a 32 bits Read or Write operation



DISCLAIMERS

FCC information

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC information

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) L'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Contrinex information

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