

Wireless Transmitters

www.pedak.nl / info@pedak.nl / T. +31 475-497424 / F. +31 475-497425

Receivers

Transmitters

Software

Applications

Temperature sensors

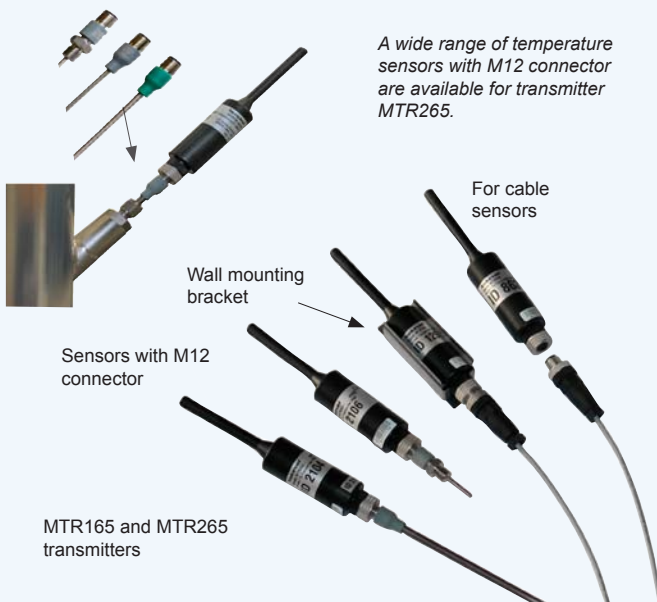
Suitable for closed steel cabinet as freezers and cold rooms



	Internal temperature sensor	Multi-input transmitter	2 channel transmitter	Transmitter for 4..20 mA, 0..10V	Transmitter for temp. sensors
Model	MTR260C	FTR262	FTR860	MTR165	MTR265
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	Nokeval
Number of channels	1	1	2 channel	1	1
Input	Internal Pt100 sensor response time 10 minutes.	Pt100, thermocouple K, J, T, E, L, N, mV, 0..10 V, 0..100 V, 0/4..20 mA, 0..2000 mV	Pt100, thermocouple K, J, T, E, L, N, mV and 0/4..20 mA	0..20 mA, 4..20 mA, 0..2000 mV, 0..10V, 0..100 V	Pt100, thermocouple K, J, T, E, L, N
Radio signal	Frequency 433.92 MHz	Frequency 433.92 MHz	Frequency 433.92 MHz	Frequency 433.92 MHz	Frequency 433.92 MHz
Operating temperature	-30..+60°C	-30..+60°C	-30..+60°C	-30..+70°C	-30..+70°C
Maximum range	50..300 m	50..200 m	50..200 m	50..200 m	50..200 m
Accuracy	< 0.5°C Pt100 sensor	±0.2°C Pt100 sensor ±0.75°C or ±1.5°C TC **	±0.2°C Pt100 sensor ±0.75°C thermocouple	±0.05% of span	±0.2°C Pt100 ±0.75°C thermocouple
Configuration	MekuWin or 6790	MekuWin or 6790	MekuWin or 6790	MekuWin or 6790	MekuWin or 6790
Transmitting interval	Typically 80 s (>4 s)	4 s..5 min	4 s..5 min	4 s..5 min	4 s..5 min
Sensor connection	Internal sensor	Screw terminal 1,5 mm ²	Screw terminal 1,5 mm ²	M12 connector	M12 connector
Power supply	3.6V Lithium battery, size 1/2 AA	2 x 1.5 V AA battery or 9-24 VDC	External power supply 24...240 VDC/VAC	3V Lithium battery CR2032	3V Lithium battery CR2032
Battery life	Typically > 5 years *	Typically 3 years *	-	Typically 2 years *	Typically 1 year *
Dimensions	75 x 35 x 35 mm WHD ¹⁾	80 x 130 x 60 mm WHD	180 x 130 x 60 mm WHD	92 x Ø29 mm + 80 mm	92 x Ø29 mm + 80 mm
Protection class	IP67 (watertight)	IP65	IP65	IP66	IP66
Note	Developed for transmitting from closed steel cabinets. ¹⁾ without antenna	** Accuracy is given with thermocouple in operating temperature 0..40°C (±0.75°C) and -30..+60°C (±1.5°C).	Suitable only for external power supply. Digital inputs: 2 digital inputs, max. 240 VAC	Includes wall mounting bracket and M12 connector with screw terminals for input wires. Input resistance 50 Ω for current inputs.	Includes wall mounting bracket and M12 connector (with screw terminals) for temperature sensor

Prices without sensors.

* One minute transmitting interval at 25 °C



A wide range of temperature sensors with M12 connector are available for transmitter MTR265.

For cable sensors

Wall mounting bracket

Sensors with M12 connector

MTR165 and MTR265 transmitters

FTR262 transmitter can be powered using either batteries (2 x standard AA) or external 9-24 VDC power supply. Transmitter is specially suitable for measurements with short transmission intervals (4..30 s) and has long battery life time.



FTR262

2 channel transmitter FTR860 is designed for wide supply voltage range 24...240 VAC or VDC.

FTR860 has two digital inputs that can be used, for example, to control when to send measurement data. Transmitter requires always external supply voltage.



FTR860

Wireless Transmitters

Receivers

Transmitters

Software

Applications

Temperature sensors

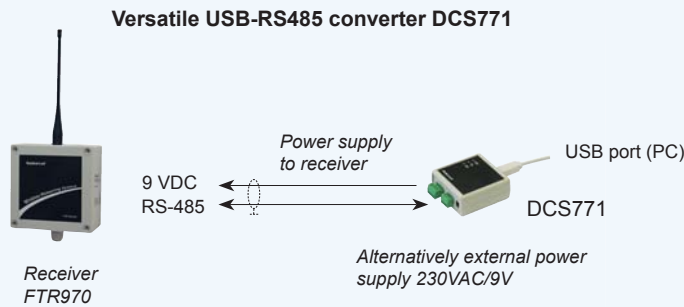


Four thermocouples

	Laboratory transmitter	Laboratory transmitter	Wireless portable meter	USB-RS485 Serial Converter	Field enclosure MTR-IP65
Model	MTR262	MTR264	KMR260	DCS771	
Manufacturer	Nokeval	Nokeval	Nokeval	Nokeval	
Number of channels	1	4	1		
Inputs	Pt100, thermocouples K, J, T, E, L, N, mV, 0..10 V, 0..100 V, 0/4..20 mA 0..2000 mV	Thermocouples K, J, T, E, L, N and 0..2000 mV	Pt100, thermocouple K, J, T, E, L, N and mV	Features: <ul style="list-style-type: none"> Serial Converter RS485 - USB Provides power to radio receivers Power supply from USB port Accepts also external transformer 9..24 VDC Screw terminals for 1.5 mm² RS485 cable. Dimensions 66 x 28 x 66 mm 	Field enclosure MTR-IP65 for MTR262 and MTR264 transmitters. Protection class IP65. Dimensions 70 x 100 x 25 mm (WHD)
Radio signal	Frequency 433.92 MHz	Frequency 433.92 MHz	Frequency 433.92 MHz		
Operating temperature	0..+60°C	0..+60°C	0..+40°C		
Maximum range	20..100 m	20..100 m	50..200 m		
Accuracy	±0.2°C Pt100 sensor ±0.75°C or ±1.5°C TC *	±0.75°C or ±1.5°C *	±0.2°C Pt100 ±0.75°C thermocouple		
Configuration	MekuWin or 6790	MekuWin or 6790	PromoLog or keypad		
Transmitting interval	4 s..5 min	4 s..5 min	-		
Sensor connection	Screw terminal, 1,5 mm ²	Screw terminal, 1,5 mm ²	Quick connector		
Power supply	3V Lithium battery CR2032	3V Lithium battery CR2032	LiPo battery, recharging using USB port		
Battery life	Typically 1 year *	Typically 9 months *	10 h in continuous use		
Dimensions	78 x 45 x 18 mm (WHD)	78 x 45 x 18 mm (WHD)			
Protection class	IP20	IP20	IP64		
	Field enclosure IP65 as option.	Field enclosure IP65 as option.	128 x 64 pixels graphic display		
	* Accuracy in operating temperature 0..40 °C and 0..60°C.	* Accuracy in operating temperature 0..40 °C and 0..60°C.	Measuring data can be wirelessly sent to PC		

Prices without sensors.

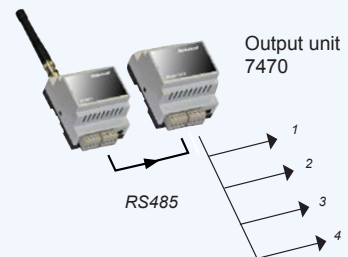
* One minute transmitting interval at 25 °C



DCS771 serial converter is powered from USB port and can provide supply voltage to one receiver. More than one receivers can be powered through DCS771 if a 9 VDC external power supply is used.

Computer can be shutdown without losing any measurement data if an external power supply is used with FTR970-PRO or RTR970-PRO receivers. Receivers have a memory of 150.000 samples.

RTR970-PRO or FTR970-PRO receiver



Four output channels 0/4-20 mA, 0-10 V

Several output units 7470 can be connected to serial bus RS485 (max 8 units =32 channels).

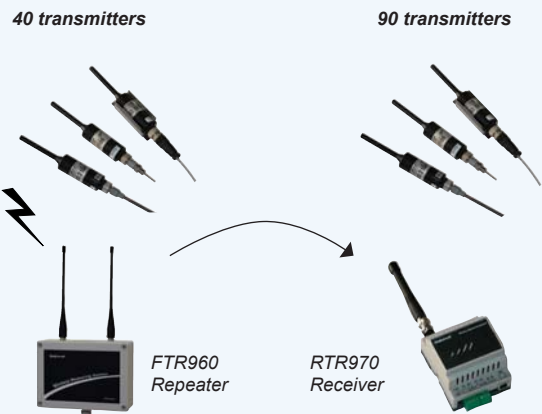
Number of transmitters

The maximum number of radio transmitters in a coverage area is limited by radio regulations. The use of repeaters reduces the maximum number of transmitters because repeaters use the same frequency channel as transmitters. The following table shows the maximum number of allowed radio transmitters in a coverage area.

Transmission Interval (s)	One Receiver	Receiver + 1 repeater	Receiver + 2 repeaters
	FTR970 RTR970	FTR960	FTR960
Maximum number of transmitters			
5	22	11	7
10	43	22	14
20	87	43	29
30	130	65	43
40	174	87	58
50	217	109	72
60	261	130	87
70	304	152	101
80	348	174	116
90	391	196	130
120	522	261	174
240	1043	522	348

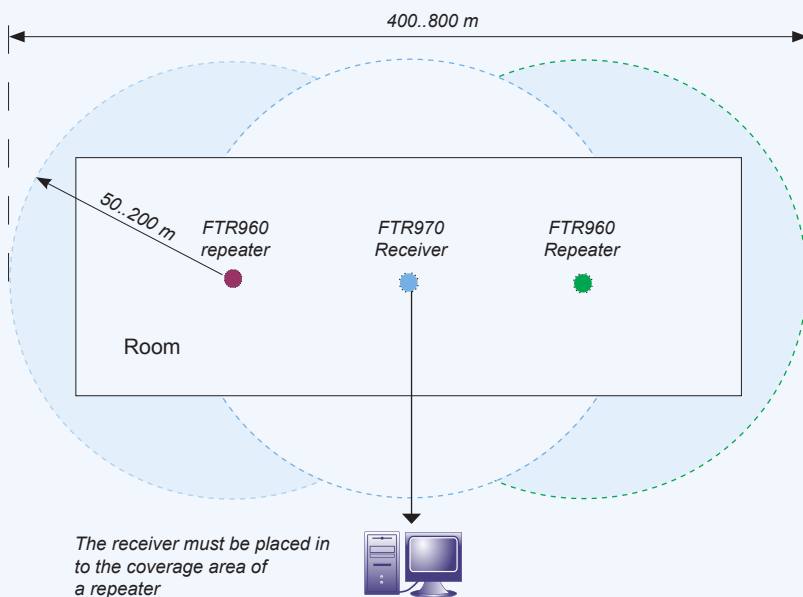
For example, if you have transmission interval of 60 seconds and one repeater and one receiver, the maximum number of transmitters is 130, Without repeaters you can use 261 transmitters. Four channel model MTR264 counts as 4 transmitters.

Example case of overlapping coverage areas with one minute transmission interval.



Both receivers can listen an unlimited number of transmitters, but radio regulations limit the number of transmitters to 130 when one minute transmission interval is used. The use of repeaters decreases number of transmitters as it also transmits data.

How to place receivers and repeaters in large room



One receiver FTR970 and two FTR960 repeaters can cover a large room, measuring up to 200 m x 800 m.

Wireless transmitters are the easy way to solve quality control problems in your production.

Use wireless transmitters only for non-critical applications

The collision probability of radio data packets increases when the number of transmitters in a coverage area increases or the transmission interval decreases.

For example, if a system with one receiver has a transmission interval of 30 seconds and the number of MTR262 transmitters is 70 the probability of a collision is about 5%. Therefore, the probability that at least one of two consecutive transmission gets through is over 99.8% (further details in manual of transmitters).

