S7021 PULSE LOGGER
WITH COUNTING AND BINARY INPUTS

- recording of pulses from water meter, gas meter, electrometer, flow meter, revolution counter
- time event record from binary signal (e.g. door opening/closing ..)
- production monitoring
- long term field measurement

Logger is designed for counting of pulses, optionally for logging of time events from binary signal. Counter reading and actual state of binary input are displayed on dual line LCD display. Counter status is stored in adjustable time interval into logger's non-volatile memory. Time of event (change of binary input state) is stored immediately after event. Data transfer to the personal computer for further analysis is performed via serial interface RS232, USB or Ethernet by means of a proper adapter or GSM modem.

- Counter reading is possible to display in real value, range of the LCD display is 19999, after exceeding of displayable value only lowest places are displayed with warning symbol.
- Counter has two modes enabled: after counting of maximum value counter stops or overflows and counts again.
- Counter reset enabled from the PC.
- In the record is possible to indicate counter state or counter state increment between logging intervals.
- Record from binary input contains date and time (resolution of 1 s) when change of input logic level appeared and its logic state.
- Record from binary input is possible to disable.
- It is possible from the PC to assign both logic states of binary input a description, which is displayed on the record.
- On the LCD logic states are always displayed as ON (contact closed) and OFF (contact opened).
- Variability of connection to the computer - USB, RS232, Ethernet, GSM modem.
- Permanent connection to the PC enabled, data is possible to download even during logging.
- Logging start/stop is enabled: at certain time and date programmed from computer, by signal connected to binary input or by delivered magnet.
- Also special logging mode is enabled, when logging runs only, if counter reading is out of adjusted alarm limits.
- Input pulse signal is recalculated and displayed in real measured physical units by means of the PC software.
- Each channel is possible to describe with text of maximum 16 characters, each logger with text of 32 characters.
- Password protection enabled to prevent unauthorized manipulation.
- Extremely low consumption from the battery, indication of remaining battery life, easy battery replacement.
- Robust watertight case, easy installation, locking enabled.

TECHNICAL PARAMETERS	
Counter range – user selectable:	in 16bit mode: 0 to 61 695 pulses, memory of 32 504 records in non-cyclic mode in 32bit mode: 0 to 2 021 654 527 pulses, memory of 16 252 records in non-cyclic mode
Input signals:	from potential-less contact or two state voltage signal
Parameters of counting input:	minimum pulse duration: 1 ms (shorter pulses may not be recorded) maximum frequency: 500 Hz current through closed contact: 30microA, maximum voltage across opened contact: 3.6V LOW voltage level: 0 to +0.2V (current from input max 30microA) HIGH voltage level: +3.0 to +30V (current to input max 100nA)
Parameters of binary input:	minimum pulse duration: 500 ms (shorter pulses may not be recorded) maximum frequency: 0.5Hz (i.e. maximum 5 pulses in 10s) current through closed contact: 3microA, maximum voltage across opened contact: 3.6V LOW voltage level: 0 to +0.2V (current from input max 3microA) HIGH voltage level: +3.0 to +30V (current to input max 100nA)
Operational temperature range:	-30 to +70°C
Real time clock:	year, leap year, month, day, hour, minute, second
Data logging interval of counting input:	adjustable from 10s to 24hours
Refresh of display and alarm state:	every 10 s
Data logging modes:	noncyclic – logging stops after filling the memory cyclic – after filling memory oldest data is overwritten by new
Built-in connector for input signals:	male Canon 9 pins
Dimensions without connector, weight:	93x64x29mm, 130g
Power:	Lithium battery 3.6V, size AA, typical life 3 years, indication of remaining life
Protection:	IP67- protected against influence of temporary immersion into water

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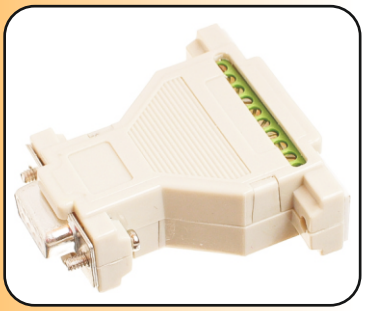
No accessories are included. For basic use it is necessary to order USB adapter or COM adapter for communication with computer, optionally start/stop magnet, if needed to control logging the other way than directly from computer or external binary signal. Also connector for input signals connection is necessary to order.

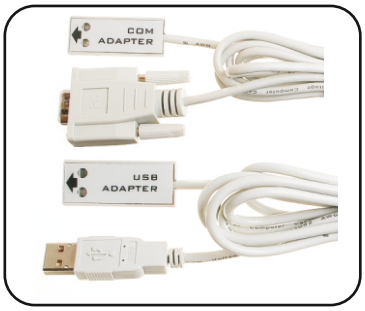
Included accessories: battery, free program for Windows is ready to download from www.cometsystem.cz. Program enables to control all logger functions and viewing and printing of recorded data in numerical and simple graphical format. It is possible to export logged values to dbf or txt formats for further analysis.

Optional accessories:

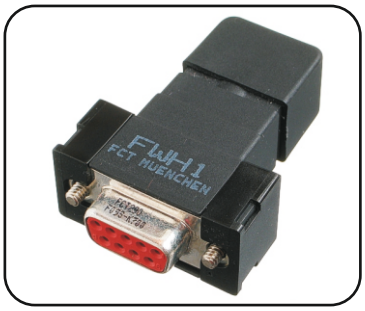
- **SWR004 - optional software for Windows** color print, vertical and time zooming of graphs and other functions
- **DBL Logger Program** - database program for work with data from Comet loggers. Program enables i.a.:
  - To set locally the GSM modem via RS232 link by means of QMS2901 cable.
  - To view selected channels from any Comet logger together with selected channels of other Comet loggers.
  - Measurement from different Comet devices is possible to combine in one table or graph.
  - To choose any time interval for analysis, print or export to PDF - table and graph - see also page 23.
- **SW100 - CD with free PC program**
- **LP002 - COM adapter** for communication with personal computer via RS232 serial port
- **LP003 - USB adapter** for communication with personal computer via USB port
- **LP005 - LAN adapter** for communication with the PC via Ethernet, including ac/dc adapter 230Vac/5Vdc. Exceeding of adjusted limits is alarmed by sending e-mail message or trap.
- Accessories for wireless communication with loggers via GSM - see further
- **LP004 - start/stop magnet**
- **MD036 - self adhesive Dual Lock** for easy installation
- **K0921 - watertight female connector Canon 9 pins** with cover for connection of input signal, protection IP67
- **K0925 - female connector Canon 9 pins** with cover for connection of input signal, no protection (IP20)
- **K0945 - adapter with terminals for easy connection of input signals**, protection IP20
- **F9000 - wall holder** secured against unauthorized removal
- **A4203 - spare Lithium battery 3.6V**, size AA, no leads



Adapter for input signals connection



COM and USB adapter for communication with PC



K0921- watertight connector

LP005 - LAN adapter

LP004 - start/stop magnet

F9000 - wall holder with lock

Warranty: 2 years