

## Capacitive detectors

# CSCV3 Capacitive overflow detector Contact output & Modbus



Output signal	<b>3x open-drain contacts</b> <b>1x power-switch</b> <b>2x Modbus</b>
Configurable	Yes (several modes for each output)
Cable	10m
Connector	M12 – 8 poles
Dimensions	90x90x32mm
Housing sealing	IP68
Operating Temperature	-40...+80°C
Power supply : Internal or external	Battery : 3,6V (8 years life minimum) 3,6...16V
Compatibility with V3 devices	LNU06V3/LNU10V3/LOG04V3/LOG10V3
Weight CSCV3-110	790g

### Features

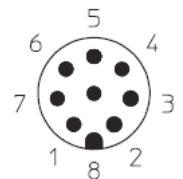
Pin Nb	1	2	3	4	5	6	7	8
Colour	White	Brown	Green	Yellow	Grey	Pink	Blue	Red
Signal	V+	GND	SW	MB-H	MB-L	OD1	OD2	OD3

- |                                    |                               |
|------------------------------------|-------------------------------|
| 1 : Optional external power supply | +3,6...16 V                   |
| 2 : Ground signal                  | GND                           |
| 3 : Power-Switch Output (16V 1A)   | Disabled by default           |
| 4 : Modbus RTU RS485 High          |                               |
| 5 : Modbus RTU RS485 Low           |                               |
| 6 : Open-drain output (30V 2A)     | Pulse mode by default         |
| 7 : Open-drain output (30V 2A)     | Overflow status NO by default |
| 8 : Open-drain output (30V 2A)     | Overflow status NC by default |

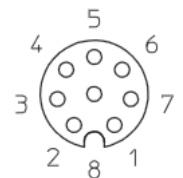
#### Application examples :

PLC connection / Water sampler control / Any relay control /  
Pumps triggering / Overflow periods / Capacitive value

**Male**



**Female**



#### Possible output options (selectable for each output) :

- NO or NC mode selectable for each output
- Overflow status
- Pulse every elapsed time in overflow
- Overflow status with minimal pulse length
- Activation after an elapsed time in overflow
- Always activated or deactivated

Protocole Modbus RS485 / Mode RTU / 9600 Baud by default / 8 data bits / None Parity / 1 stop bit

CSC Slave Id : 1 by default  
CSC Revision : 7 (03.06.2014)

Register Number	Name	Data Type	Units of Measure	Values Range	Default Value	Read or Write	Description
8192	Reboot	integer	/	0 to 65535	/	R	Reboots counter
8193	PowerSupply	integer	mV	0 to 16000	/	R	Power supply
8194	Temperature	integer	°C	-40°C to 80°C	/	R	Temperature
8195	CapExt	integer	/	0 to 1023	/	R	Capacitive value inside the detector
8196	CapInt	integer	/	0 to 1023	/	R	Capacitive value outside the detector (in detection zone)
8197	CapDiff	integer	%CapDiffRange*	0 to 100	/	R	Difference (CapInt - CapExt) reduced to CapDiffRange percentage
8198	CapDiffAvg	integer	%CapDiffRange	0 to 100	/	R	Capacitive index : AvgSize-point average of CapDiff
8199	OvStatus	integer	/	0 or 1	/	R	Overflow status : 0 = no overflow, 1 = overflow
8200	OvCnt	integer	/	0 to 65535	/	R/W	Overflows counter
8201	PulseCnt	integer	/	0 to 65535	/	R/W	Pulses counter
8202	PulseCycle	integer	multiple of	0 to 65535	/	R	Duration of overflow(s) since the last pulse (when it reaches PulseCycle reg. 4113, a pulse will be generated)
8203	PulseTempo	integer	of	0 to 65535	/	R	Countdown of pulse duration (cf reg. 4112)
8204	OvTempo	integer	CapCycle	0 to 65535	/	R	Countdown of overflow temporisation (cf reg. 4114)
8205	OvLength	integer	/	0 to 65535	/	R	Duration of the current overflow
4096	MbSpeed	integer	/	0 to 7	4	R/W	Modbus Baudrate (en bps) 0 : 600 / 1 : 1200 / 2 : 2400 / 3 : 4800 / 4 : 9600 / 5 : 19200 / 6 : 38400 / 7 : 57600
4097	MbAddr	integer	/	1 to 247	1	R/W	CSC Slave ID on Modbus
4098	MbTimer	integer	milliseconds	0 or 500 to 60000	1000	R/W	Modbus standby mode after MbTimer of inactivity
4099	CapCycle	integer	milliseconds	0 to 15000	1000	R/W	Cycle of capacitive measurement
4100	AvgSize	integer	/	1 to 300	10	R/W	Number of points for averaging CapDiff (result in CapDiffAvg)
4101	CapDiffMode	3-bits field	/	0 to 7	3 (Auto-Min + Auto-Max)	R/W	0x0001 : Auto-Min / 0x0002 : Auto-Max / 0x0004 : Standby
4102	CapDiffLimitMin	integer	/	-1023 to 1023	Factory setting	R	Minimal limit for CapDiffRangeMin
4103	CapDiffLimitMax	integer	/	-1023 to 1023	Factory setting	R	Maximal limit for CapDiffRangeMax
4104	CapDiffRangeMin	integer	/	-1023 to 1023	/	R/W	Minimal "raw CapDiff" in the application (bounded by CapDiffRangeMin)
4105	CapDiffRangeMax	integer	/	-1023 to 1023	/	R/W	Maximal "raw CapDiff" in the application (bounded by CapDiffRangeMax)
4106	CapDiffTh	integer	%	0 to 100	80	R/W	Overflow triggering threshold (CapDiffAvg > CapDiffTh * CapDiffRange)
4107	CapDiffHyst	integer	%	0 to 100	5	R/W	Overflow triggering hysteresis
4108	OutputMode OD1	9-bits field	/	2 (Pulse / NO)	0 (Normal (NO)) / 1 : Reverse (NC)	R/W	Polarity (1 bit)
4109	OutputMode OD2	9-bits field	/	1 (OV && PG / NO)	0 : Reset / 1 : OV && PG / 2 : Pulse / 3 : Tempo / 4 : Length / 5 : OV / 6 : PG	R/W	Function (8 bits)
4110	OutputMode OD3	9-bits field	/	0 or 1	0 to 6	R/W	Duration of a pulse (for pulse function)
4111	OutputMode SW	9-bits field	/	0 to 65535	1	R/W	Period between 2 pulses (for pulse function)
4112	PulseWidth	integer	multiple of	0 to 65535	60	R/W	Overflow temporisation before the output activation (for tempo function)
4113	PulseCycle	integer	of	0 to 65535	120	R/W	Minimum duration of the output activation (for tempo function)
4114	OvTempo	integer	CapCycle	0 to 65535	3600	R/W	
4115	OvLength	integer	/	0 to 65535		R/W	
0	SN[0]	hexa	/	/	0x494A	R	Serial Number of detector
1	SN[1]	hexa	/	/	0x3D4D	R	
2	SN[2]	hexa	/	/	Factory setting	R	
3	SN[3]	hexa	/	/	Factory setting	R	
4	Version[0]	hexa	/	/	Factory setting	R	Software version and revision
5	Version[1]	hexa	/	/	Factory setting	R	

Note \*CapDiffRange = [CapDiffRangeMin ; CapDiffRangeMax]  
raw CapDiff = CapInt - CapExt