MASTER CONTROL UNIT – MCU
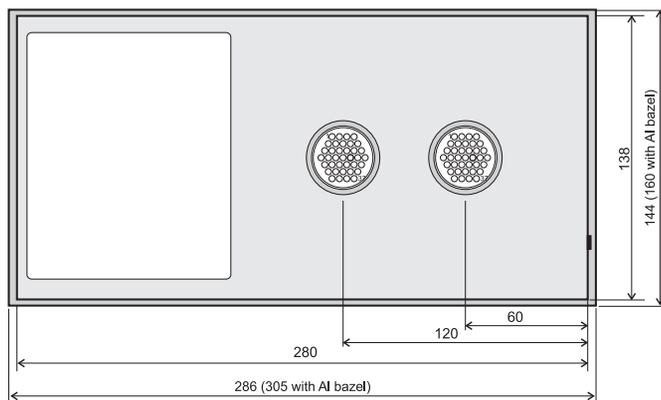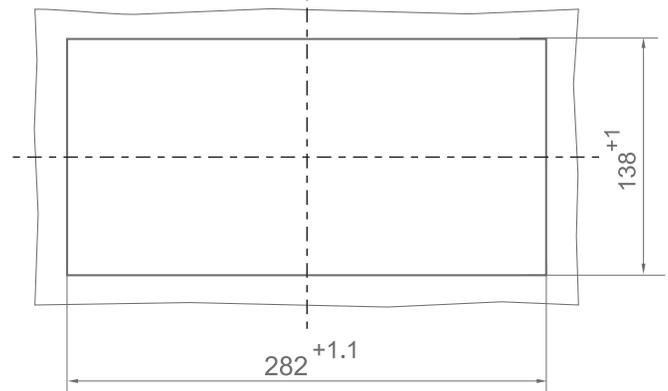
DIMENSIONS

The **Master Control Unit – MCU** is divided into a few functioning sets:PUMP ENGAGEMENT (PTO), PROGRAMMABLE and ILLUMINATED KEYS, INFO DISPLAY AND WARNING LIGHTS, RPM MANAGING SET, WATER AND FOAM TANK LEVEL GAUGE and DIGITAL PRESSURE INDICATORS. The MCU has available 14 factory-programmable keys that can act as switches or push buttons. Keys can be assigned different color-coded symbols such as pictograms or colors. The MCU can power up to 29 digital outputs (MOSFET), which are individually protected by a thermal reversible fuse (0,7 A) and 4 relay outputs (1 A). There are also available eight conditional inputs, protected with optocouplers which may be connected to the positive or negative voltage.

The Pressure Governor allows automated regulation of the engine RPMs according to the pressure fluctuations in the pump, which ensures a constant water flow at the nozzle regardless of the number of connected users. The automatic pressure regulation is turned ON by turning the rotation switch – encoder . This will cause the pressure to increase to 4 bars. The pressure can subsequently be adjusted to the desired value using the encoder in 1 bar increments. If the manual keys for manual control of the RPMs (pressure) are used while the automatic regulation is running, the automatic regulation will be turned off. The pressure can then be increased and decreased manually or set to automatic again by turning the encoder.
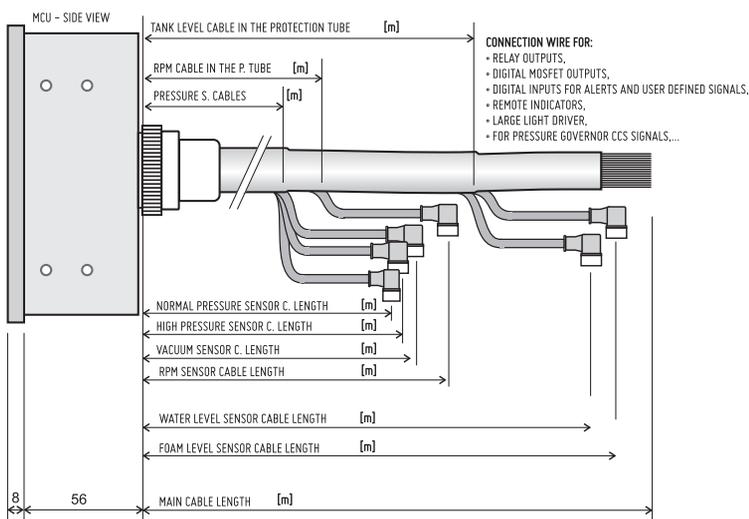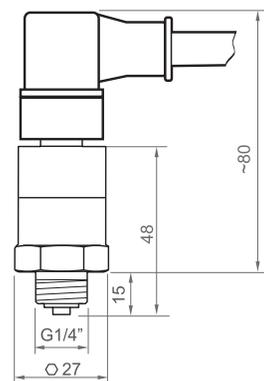
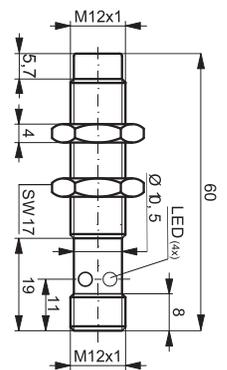## MCU DIMENSIONS (back side)

CUT OUT FOR THE CONTROL PANEL

CONNECTION CABLE

PRESSURE SENSOR DIMENSION

INDUCTIVE PROXIMITY SENSOR DIMENSION

MCU

29 x RESETABLE FUSES 0,7 A

8 x OPTOCOUPLER INPUTS

0

+10-30V DC
+10-30V DC
+10-30VDC LED ILLUMINATION
GND 1
GND 2
GND 3

CCS COM
CCS INC +
CCS DEC –

IDLE COM
IDLE NC
IDLE NO

RELAY OUTPUT 1 (+24 V or GND, max.1 A), e.g.PTO CLUTCH
RELAY OUTPUT 2 (+24 V or GND, max.1 A), e.g.PTO
RELAY OUTPUT 3 (+24 V, max.1 A)
RELAY OUTPUT 4 (+24 V, max.6 A), e.g. SIREN, BUZZER

T 1-WIRE DATA LINK FOR REMOTE (ADDITIONAL) INDICATORS

DIGITAL OUTPUT   1 (max.0,7A)
DIGITAL OUTPUT   2 (max.0,7A)
DIGITAL OUTPUT   3 (max.0,7A)
DIGITAL OUTPUT   4 (max.0,7A)
DIGITAL OUTPUT   5 (max.0,7A)
DIGITAL OUTPUT   6 (max.0,7A)
DIGITAL OUTPUT   7 (max.0,7A)
DIGITAL OUTPUT   8 (max.0,7A)
DIGITAL OUTPUT   9 (max.0,7A)
DIGITAL OUTPUT 10 (max.0,7A)
DIGITAL OUTPUT 11 (max.0,7A)
DIGITAL OUTPUT 12 (max.0,7A)
DIGITAL OUTPUT 13 (max.0,7A)
DIGITAL OUTPUT 14 (max.0,7A)
DIGITAL OUTPUT 15 (max.0,7A)
DIGITAL OUTPUT 16 (max.0,7A)
DIGITAL OUTPUT 17 (max.0,7A)
DIGITAL OUTPUT 18 (max.0,7A)
DIGITAL OUTPUT 19 (max.0,7A)
DIGITAL OUTPUT 20 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 21 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 22 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 23 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 24 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 25 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 26 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 27 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 28 - POWER OUT (max.2 A-opcija)
DIGITAL OUTPUT 29 - POWER OUT (max.2 A-opcija)

DIGITAL INPUT 1 (+24 VDC or GND)
DIGITAL INPUT 2 (+24 VDC or GND)
DIGITAL INPUT 3 (+24 VDC or GND)
DIGITAL INPUT 4 (+24 VDC or GND)
DIGITAL INPUT 5 (+24 VDC)
DIGITAL INPUT 6 (+24 VDC)
DIGITAL INPUT 7 (+24 VDC)
DIGITAL INPUT 8 (+24 VDC)

EDC
PRESSURE GOV. CON.
+24V or GND
RPM INCREASE
RPM DECREASE

IDLE CON.

EMITTER electronics
REMOTE INDICATOR MRI08
Datalink to master indicator
T +

GND outputs by activated buttons (B1...B14)
or outputs from the other process:
  - activation of the pneumatic valve,
  - lighting ON/OFF
  - Large Light Driver outputs from the Tank Level Gauge,...

Direct connection or connection trough power relay
(care should be taken not to exceed current limitation max. 0,7 A)

LAMP/LED   +24V DC
VALVE
SIREN/ BUZZER   +24V DC
                                      +24V DC

LAMP/LED   +24V DC
VALVE
SIREN/ BUZZER   +24V DC
                                      +24V DC

Digital input signals for:
  - warning lights (accu, oil, water,...)
  - PTO READY signal
  - operation conditions (Pressure governor, buttons, ...)

0,5-4,5 V
U
P
0...25 bar
NORMAL PRESSURE SENSOR

0,5-4,5 V
U
P
0...60 bar
HIGH PRESSURE SENSOR

0,5-4,5 V
U
P
-1...9 bar
VACUUM SENSOR

RPM
INDUCTIVE PROXIMITY SENSOR - PUMP RPM

0,5-4,5 V
U
P
600 mbar
PRESSURE SENSOR - TANK LEVEL GAUGE-WATER

0,5-4,5 V
U
P
600 mbar
PRESSURE SENSOR - TANK LEVEL GAUGE-FOAM

0,5-4,5 V
4-20 mA
U/I
T
TEMPERATURE SENSOR

0,5-4,5 V
4-20 mA
U/I
X
SENSOR

CAN-H
CAN-L

MASTER CONTROL UNIT – **MCU**
SPECIFICATIONS AND ORDERING INFORMATION

SPECIFICATIONS

Power supply	21–30 Vdc
Power consumption	max. 10 W
Relay output 1	4 x, max. 1 A
Relay output 2	1 x, max. 6 A
Digital outputs	29 x MOSFET outputs, max. 0,7 A (PTC protected)
Keys	14 x free programmable with pictograms + 6 x fixed
Measuring range – low pressure gauge	0 ... 19,9 bars
Measuring range – high pressure gauge	0 ... 60 bars
Measuring range – vacuum gauge	–1,0 ... 9,0 bars
Pressure sensor range – low pressure	0 ... 25 bars
Pressure sensor range – high pressure	0 ... 60 bars
Pressure sensor range – vacuum	–1... 9 bars
Transducer electrical connection	3–wire cable 3x0,35mm2 + connector M12
Transducer pressure port fitting	G 1/4''
Transducer housing	Stainless steel 316L
Pressure regulation range /accuracy	4 (min.3) ... 16 (max.24) bars / 0,5bar
Displays	1 x 4–digit; 2 x 3–digit; 2 x 2–digit
Wiring protection	reverse polarity, overvoltage, I/O protected with optocouplers / PTC fuses
Enclosure protection (IEC 529)	IP67 MCU (front panel); IP67 sensors
Operating temperature	–25 °C...+65 °C
Dimension of the MCU	288x144x68 mm or 305x160x68 with Aluminium Bezel (LxHxW)
MCU Connector	CPC connector 37p. 1 x or 2 x
Weight	MCU 1100 g; Sensor: 100 g/pcs

ORDERING INFORMATION

(use the **RED** character below to construct basic product code)

MCU

+W .... Water tank level gauge
+ F .... Foam tank level gauge
+ WLLD5 .... Large light driver – water level
+ FLLD5 .... Large light driver – foam level
+ WH100/75 Water level auto–fill and refill function between 100% and 75% (Hysteresis)
+ FH100175 Foam level auto–fill and refill function between 100% and 75%(Hysteresis)
+ DPI25 .... Digital pressure gauge – low pressure
+ DPI60 .... Digital pressure gauge – high pressure
+ DVI .... Digital pressure gauge – vacuum
+ ILL .... Illuminated front panel
+ DWT .... Water temperature digital gauge
+ MRI08–W .. Remote indicator – water
+ MRI0B–F .... Remote indicator – foam
+ B6/14 ...... Number of user defined keys, e.g. 6 from 14 available
+ MC6 .... Main cable legth, e.g. 6m
+ ALXS .... Aluminium Eloxated Bezel – Silver