

HEGNA ELECTRONICS AS,

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RØRKOLLVN. 60, N-3160 STOKKE, NORWAY

Rev.121010

1/7

HR-System according to IEC 61243-5

IVIP3000/3x1 PART OF SYSTEM 3000

Capacitive coupled 3-phase voltage present indicator with pr. phase individual galvanic insulated digital output.



IVIP3000/3x1

- IVIP3000/3x1 voltage indicator for HR-system (90V).
- Long life low energy LED indicator for voltage present / voltage absent.
- No external matching capacitor needed (Integrated part of IVIP3000/3x1).
- Integrated over voltage and transient voltage protection.
- Pr. phase galvanic insulated digital output.

TECHNICAL DATA.

- Frequency 50 – 60HZ.
- Degree of environmental protection: IP54 (epoxy filled housing).
- Ground wire 0,3m 1,5mm² with M8 ring cable shoe.
- Connection L1, L2 and L3: Faston 6,3mm x 0,8mm. Other termination and cable details upon request.
- Signal wires: 0,3m flying leads with Faston 6,3mm x0,8mm.
- 3 of 4 mm banana socket (safety type). Suitable for safety plug on “Phase Comparator type FF2.0 / FF3.0”.
- Temperature range: -25⁰C to +65⁰C.

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SPECIAL FACILITIES.

- IVIP3000/3x1 has pr. phase galvanic insulated (5kV) digital output signal to signal amplifier VPAM3000/3x1.
- IVIP3000/3x1 needs no external auxiliary voltage source.
- Easy to test by injecting current limiting adjustable voltage into the 4 mm safety bussing in front of IVIP3000/3x1.

VPAM3000/3x1

Signal amplifier with digital outputs for use with IVIP3000/3x1.

VPAM3000/3x1 is a signal amplifier designed for amplifying the digital output signal from IVIP3000/3x1

- Two of digital outputs indicating voltage present on all three phases. Both outputs are digital high when voltage is present on all three phases, and digital low if voltage is absent on one or more phases. Output can be set with various time delay.
- One digital output pr. phase. Output is high when voltage is present at respectively phase.



TECHNICAL DATA:

- Solid state output – max 24VDC 25mA.
- Degree of protection: IP54 Epoxy filled housing.
- Dimension, weight and fixing details – see sheet 10.
- Connection: Faston 6,3mm x 0,8mm.
- Auxiliary voltage: 24VDC 10mA
- Temperature range: -25°C to $+65^{\circ}\text{C}$.

SPECIAL FACILITIES:

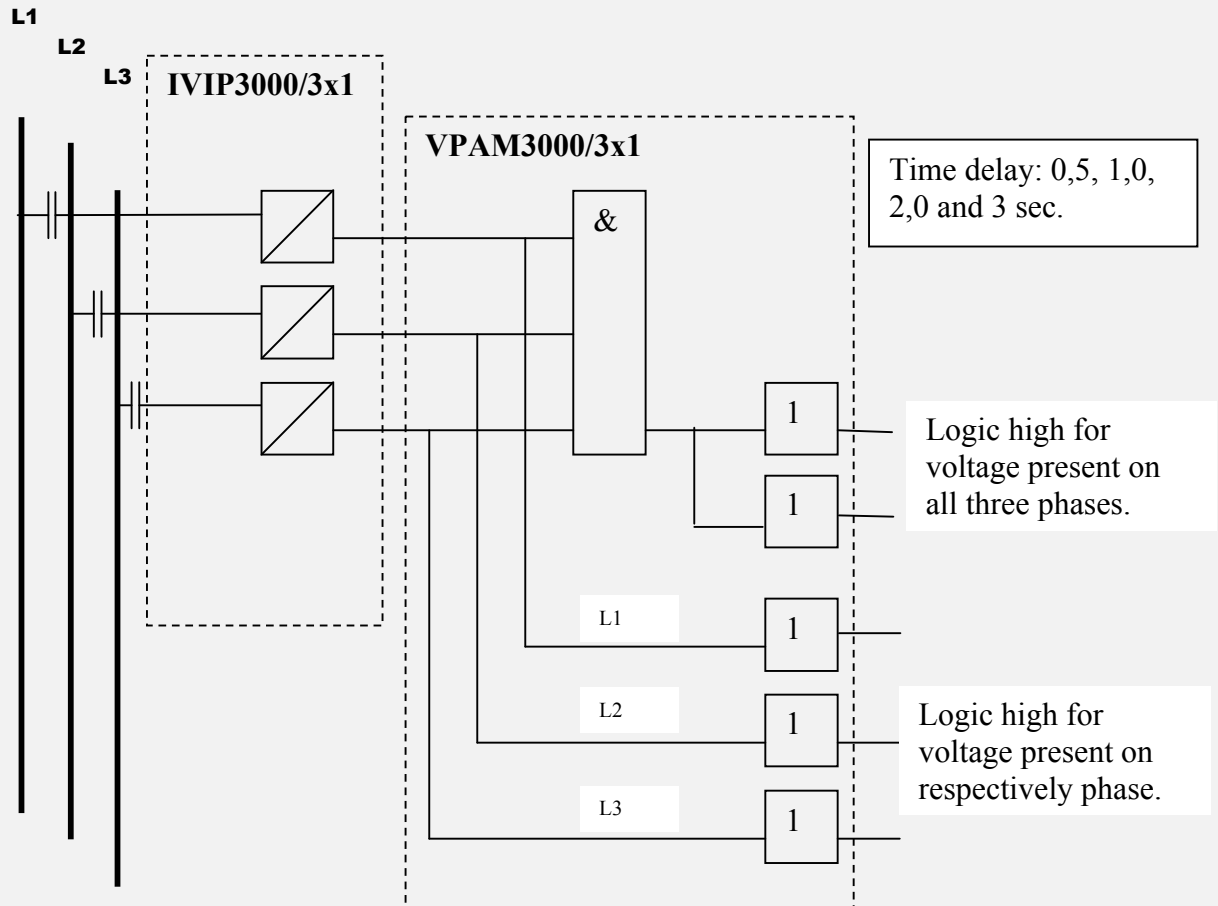
Galvanic insulation between input and output signals (5kV).

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Reverse polarity protected.(Power supply)

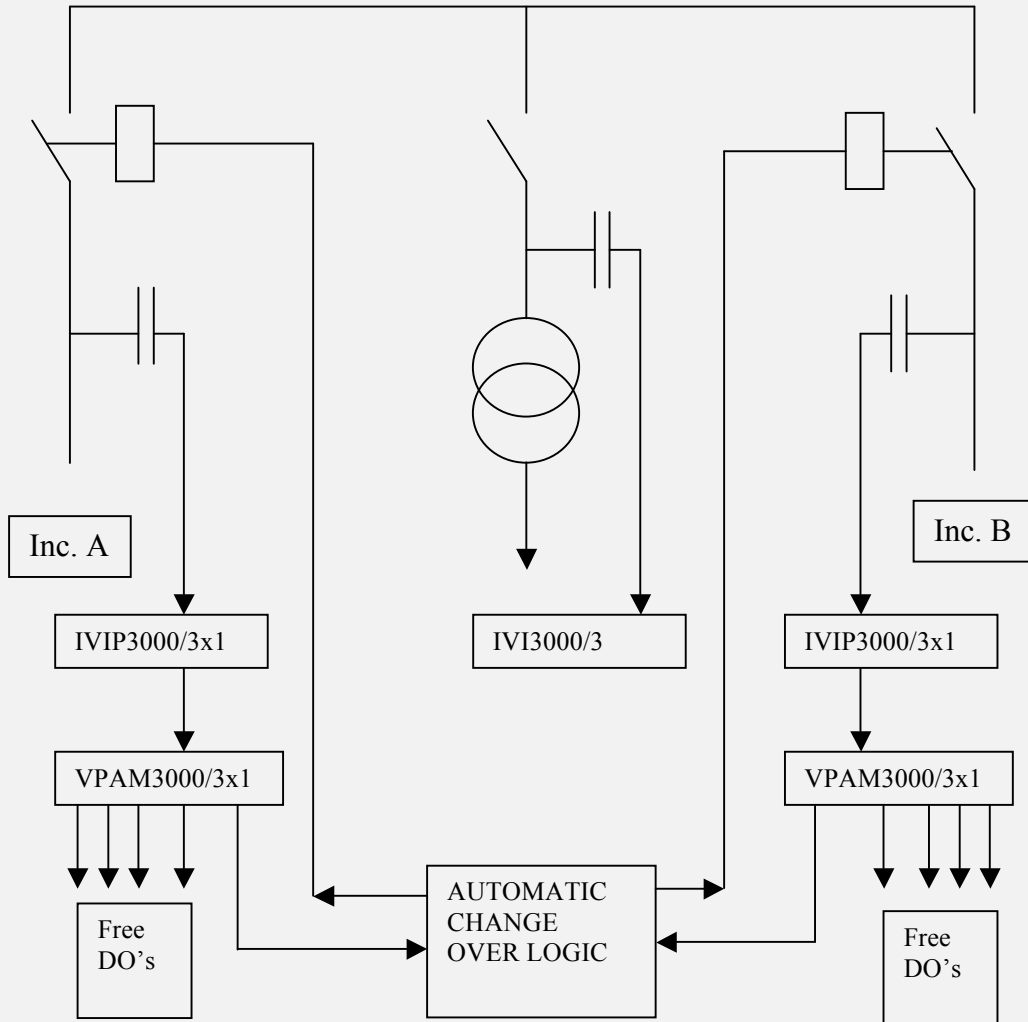
LOGIC DIAGRAM

IVIP3000/3X1 & VPAM3000/3X1

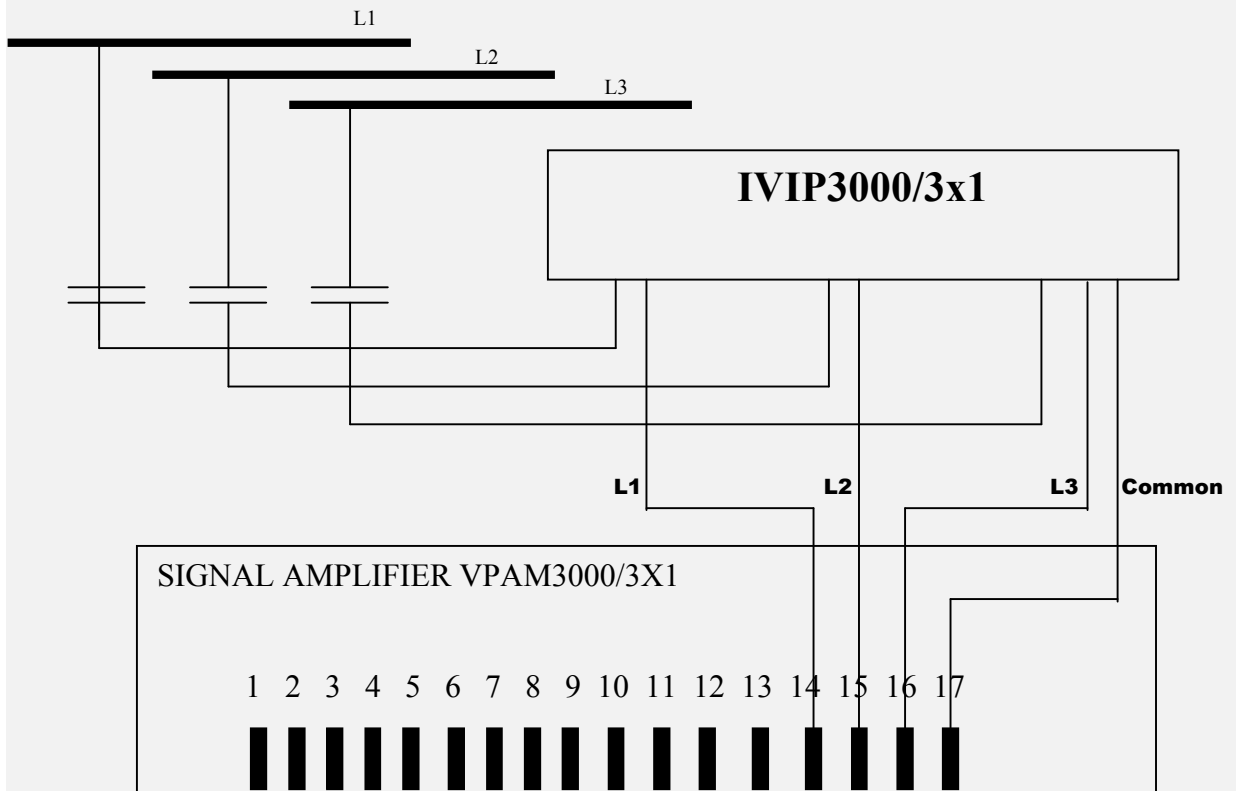


24VDC external supply voltage.
Utility power consumption - 10mA.

Typical RMU with System 3000 Voltage Detection System



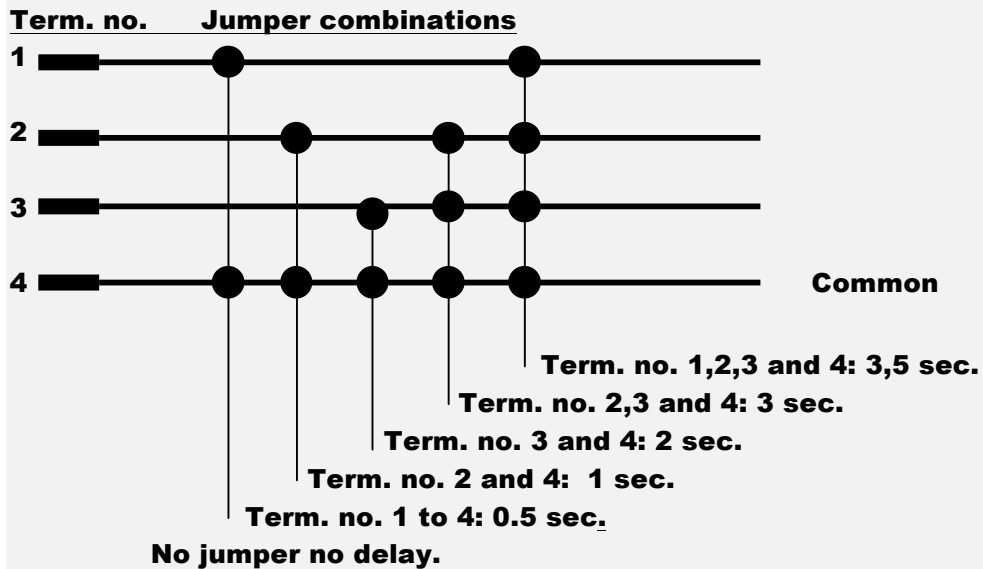
Circuit diagram. **IVIP3000/3x1 and VPAM3000/3x1.**



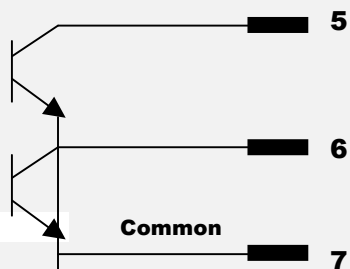
Connection table:

Term. no.	Signal description
1	Time delay
2	Time delay
3	Time delay
4	Time delay (common)
5	Voltage present all three phases
6	Voltage present all three phases
7	Voltage present common
8	Voltage present on L1
9	Voltage present on L2
10	Voltage present on L3
11	Common for signal on terminal 8,9 and 10
12	+24VDC supply
13	0VDC supply
14	Phase L1 from IVIP3000/3x1
15	Phase L2 from IVIP3000/3x1
16	Phase L3 from IVIP3000/3x1
17	Common for signal on terminal 14,15 and 16

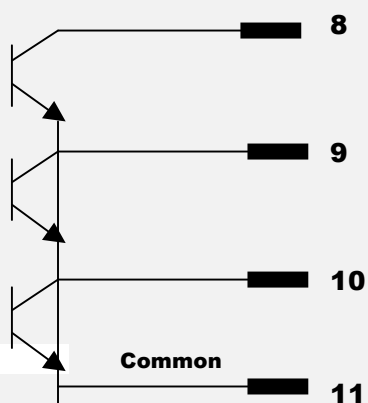
VPAM3000/3x1 Signal amplifier selectable time delay table.



VPAM3000/3x1 Signal amplifier digital output.



Signal logic high when voltage present in all three phases.
This signals can be set with selectable time delay.



Individual signal pr. phase. Logic high when voltage present on actual phase.
No selectable time delay



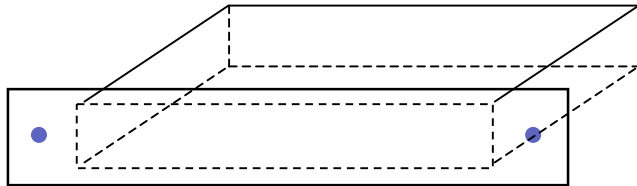
Terminal 12: 24VDC Supply

Terminal 13: 0 VDC Supply

Fixing and cut out detail for – IVIP3000/3x1.

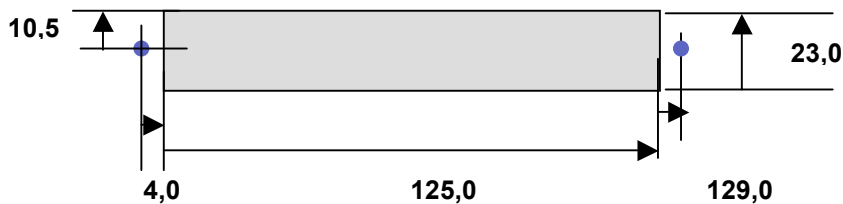
■ Weight: 0,2 kg. Fixing: 2 off M3 screws

Dimensions:



- With 138 mm
 - Height 26,3mm
 - Dept 44mm
- Ø=3,4

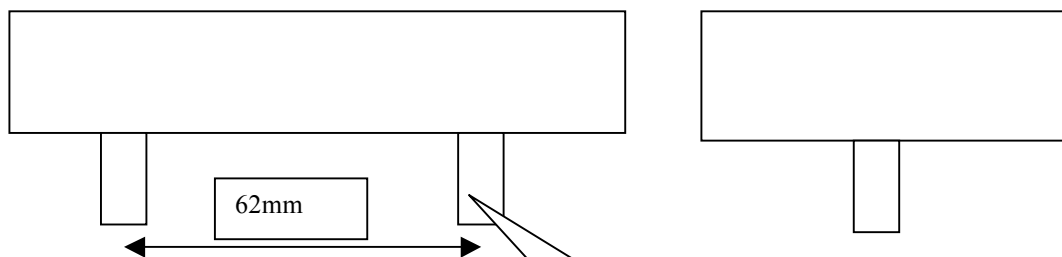
Cut-out:



Fixing detail for – VPAM3000/3x1.

■ Weight: 0,15 kg. Fixing: 2 off M6mm screws

Dimensions:



- With 100 mm
- Height 28mm
- Dept 60mm

Two of M6 x 22mm
Nylon bolt.