CLAIMS

1. An electrical process control sensor assembly for sensing a process or machine parameter, the assembly including a sensor body and a head, the body defining a body interior, the assembly including a sensing device at least partially located in the body interior, the head defining a head interior which communicates with the body interior, the assembly including a connector arrangement located in the head interior, the assembly including internal communicating members extending between the sensing device and the connector arrangement, the connector arrangement connecting, in an installed condition, the internal communicating members to external communicating members to permit electrical communication therebetween, the head defining a port through which the external connecting members are located in the installed condition, the assembly including a mounting for mounting the head to the body which is arranged to permit adjustment of the orientation of the head relative to the body, the mounting includes a pair of correspondence surfaces, one correspondence surface being on the head and the other on the body, wherein correspondence surfaces define a passage therebetween, the passage defining an escape path for fluid (e.g. vapour and/or gas, including entrained dust) from the head interior to external ambient atmosphere.

2. An assembly according to claim 1, in which the connector arrangement is in a fixed association with the body and the sensing device, and the mounting is arranged to permit adjustment of the orientation of the head and the port relative to the body and the connector arrangement.

3. An assembly according to claim 1, in which the connector arrangement is in a fixed association with the head, and the mounting is arranged to permit adjustment of the orientation of the head, the connector arrangement and the port relative to the body.

4. An assembly according to claim 1, in which the body extends along a body axis, the port being located on a lateral side of the head, relative to the body axis, wherein the port is substantially planar, and has a port axis, which is normal to the plane of the port.

5. An assembly according to claim 4, in which the port axis is not aligned nor parallel with the body axis, and may be substantially at 90° to the body axis.

6. An assembly according to claim 1, in which the mounting is arranged to permit rotation of the head relative to the body, around a mounting axis.

7. An assembly according to claim 6, in which the connector arrangement is in a fixed association with the body and the sensing device, and the mounting is arranged to permit adjustment of the orientation of the head and the port relative to the body and the connector arrangement, the mounting being arranged to permit rotation of the head and the port relative to the body and the connector arrangement, around a mounting axis.

8. An assembly according to claim 6, in which the connector arrangement is in a fixed association with the head, and the mounting is arranged to permit adjustment of the orientation of the head, the connector arrangement and the port relative to the body, the mounting being arranged to permit rotation of the head, the connector arrangement and the port relative to the body, around a mounting axis.

9. An assembly according to claim 1, in which the correspondence surfaces substantially correspond in size and shape to each other and are substantially in parallel.

10. An assembly according to claim 1, in which the passage includes a plurality of bends.

11. An assembly according to claim 1, in which the correspondence surfaces are inclined relative to the body axis.

12. An assembly according to claim 1, in which the correspondence surfaces are curved.

13. An assembly according to claim 1, in which the passage has a height dimension, which provides a gap between the correspondence surfaces.

14. An assembly according to claim 1, in which each of the correspondence surfaces includes a plurality of faces.

15. An assembly according to claim 1, in which the mounting includes a seal, which substantially seals the passage to prevent fluid flow therealong, and may comprise a gasket or O ring, the mounting may include a seal formation which defines a seal channel, in which the seal locates in an assembled condition.

16. An assembly according to claim 1, in which the head includes a port formation, which defines the port.

17. An assembly according to claim 16, in which the head defines a plurality of ports through which the external communicating members are located in the installed condition.

18. An assembly according to claim 1, in which the assembly is for sensing process or machine parameters including any of proximity, position, temperature, level, flow, pressure or movement of a component or material in a machine or process and the sensing device is a device for sensing proximity, position, temperature, level, flow pressure, or movement, the process or machine parameter may be the proximity of an object, and the sensing device is a proximity sensor for sensing the proximity of an object, the device may comprise a magnetic proximity sensor.

19. An assembly according to claim 18, in which the magnetic proximity sensor includes: a primary magnet, a primary magnet holder, a flux sleeve, a flux sleeve holder, a centre housing moulding containing a centre magnet located therein, an insulation sleeve, a slider moulding with a shaft extending therefrom and a bias slider magnet located therein, a contact carrier, a washer, a retaining plate, a screw, a contact moulding with first, second and third contact pins extending therefrom, and a seal plug.

20. A method of sensing a process or machine parameter, the method including providing an electrical process control sensor assembly, the assembly including a sensor body and a head, the body defining a body interior, the assembly including a sensing device located at least partially in the body interior, the head defining a head interior which communicates with the body interior, the assembly including a connector arrangement located in the head interior , the assembly including internal communicating members extending between the sensing device and the connector arrangement, the connector arrangement connecting, in an installed condition, the internal communicating members to external communicating members to permit electrical communication therebetween, the head defining a port through which the external connecting members are located in the installed condition, the assembly including a mounting for mounting the head to the body which is arranged to permit adjustment of the orientation of the head relative to the body, the mounting includes a pair of correspondence surfaces, one correspondence surface being on the head and the other on the body, wherein correspondence surfaces define a passage therebetween, the passage defining an escape path for fluid (e.g. vapour and/or gas, including entrained dust) from the head interior to external ambient atmosphere.