

## General Good Practices Guide for Instrumentation Installation

To enhance safety and prolong the life of electronic instruments, it is recommended to adhere to the following guidelines.

### Important Safety Note:

Prioritise safety when handling products that require a power source connected to mains voltages. Ensure that all electrical connections are made by a qualified electrician and comply with local regulations and safety standards. Only qualified and competent individuals should handle these products to mitigate risks effectively.

Additionally, to mitigate the risk of overheating, ensure good ventilation to maintain an ambient temperature within the working temperature range of the instrument as stated in its datasheet. The ideal operating temperature is 20°C. Adequate ventilation will help dissipate heat generated by electronic components, reducing the likelihood of any overheating

### Mounting Electronic Instruments along a DIN Rail

Signal conditioning and process control modules contain electronic components and circuits that may generate excess heat under certain conditions. Since suppliers cannot anticipate site conditions, it is advisable to prevent the occurrence of hot spots by avoiding horizontal grouping of electronic instruments in batches of more than five units.

Maintaining a space of 5-10mm between every five units will minimise temperature rise within a group of instruments. When mounting vertically, stacking no more than two instruments together is recommended, with a minimum 5mm spacer between adjacent pairs.

**Cabling and Relay Transient Suppression:** The electronics in process control units are typically housed in small enclosures, necessitating closely positioned wiring. All wiring must comply with current BS EN/IEC regulations. To prevent interference between ports, the following guidelines are suggested:

- a) Power cables and wires carrying transients should be routed separately from signal wiring, ideally crossing at 90° angles and being less than 30 meters in length.
- b) Low-level signal cables should be shielded twisted pairs where possible. When using shielded cables, earth the screen at one end only.
- c) Relay contacts switching inductive loads or other arcing devices should be suppressed, preferably at or across the source of inductance.

For DC circuits, use a free-wheeling diode with a peak inverse voltage (PIV) at least four times the working voltage. For AC circuits, employ an RC network with values of resistance (R) and capacitance (C) chosen to match the coil's inductance and resistance.

**Amelec Compact AD, ADG, AEC, AGS & AS:** instruments are available in various mounting packages & arrangements.

**Plastic Enclosures:** Available in the AD, AEC, AGS or AS series', these units can be clipped onto TS35 rails. The ADG series units can be clipped onto either TS35 or G rails (light or heavy-duty). AD series units can also be surface-mounted using their corner fixing holes.

**Metal Enclosures:** Supplied for some AD series DIN rail mounting instruments (TS35 heavy-duty rail). An optional rear Keyhole plate is available for surface mounting for added rigidity if needed.

**Panel Mounted Enclosures:** AD series units supplied in a metal enclosure. The panel cut-out should be 51mm wide by 76mm high (slightly larger than the enclosure extrusion dimensions of 50mm by 75mm). The units can be secured using two brackets from inside your panel as standard. Optionally, a front plate with corner fixing holes is available.

These guidelines are general; please contact our sales support team for further assistance with any application specific requirements.