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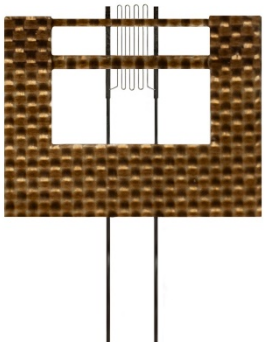
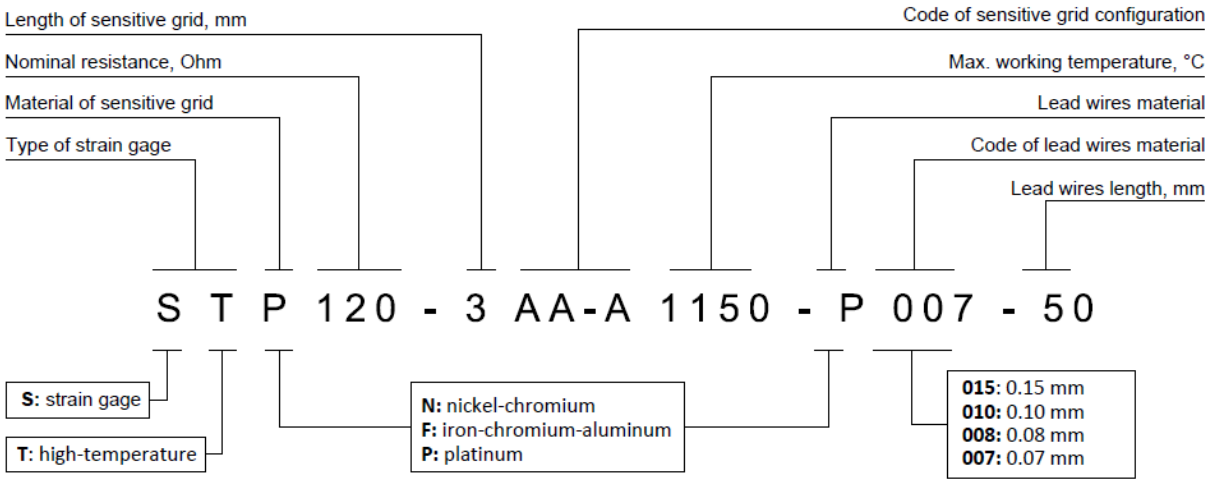
STP series high temperature strain gages
Product Datasheet



General information:
STP series bondable high temperature gages are intended for measurements of deformations in the parts of machinery and equipment, including jet engines, under dynamic loads in -269…+1150°C temperature range.
Sensitive grid of the gage is made of 14…30 um diameter platinum-tungsten wire.
Strain gage is fixed with the temporary carrier fiberglass-reinforced PTFE.
Lead wires are made of 0.07 mm platinum-based alloy. Lead wire can be made in round or flat ribbon variants. Standard diameter of the lead wires is 0.07 mm and standard length of the lead wires is 50 mm; both parameters can be optionally adjusted on request. Typical resistance of one pair of standard 0.07 mm diameter 50 mm long wires is about 14 Ohm. Nominal resistance of the gage is given excluding resistance of the lead wires (sensitive grid only).

Designation system:



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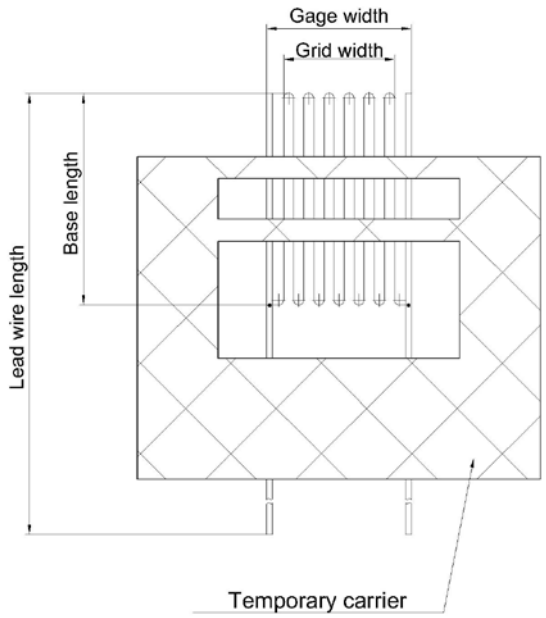
Schematic drawing:



Standard configurations:

Designation	Nominal resistance, Ohm	Nominal base length, mm	Nominal grid width, mm	Lead wires length, mm
STP120-1.6AA-A1150-P007-50	120±3%	1.6	2.3	50…300*
STP120-3AA-A1150-P007-50	120±3%	2.95	1.6	
STP120-5.5AA-A1150-P007-50	120±3%	5.5	2.0	

*Other lead wire length can be supplied on request

Temporary carrier:
Fiberglass-reinforced PTFE backing, as per drawing above. Default option, provides the best protection of the gage during transportation.

Packaging:
Individual strain gages are supplied on plastic or glass carriers, can be covered with protective plastic foil. Each strain gage is labelled with the actual electric resistance values.
Groups of strain gages are packed in plastic boxes in amount of 1…25 pieces. Each group packing has a label with the main parameters of the gages, including resistance range of the gages group, gage factor, production date, etc.
Batches of strain gages are packed in plastic containers with or without auxiliary installation tools. Each batch container has a label with all main parameters of the gages, general description, batch number and production date.

Fatigue life:
$1 \cdot 10^6$ at ±650 microstrain at 20°C.

Typical parameters:
Nominal gage factor at 20°C: 4,14

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Diagram 1. Gage factor dependence on the temperature**

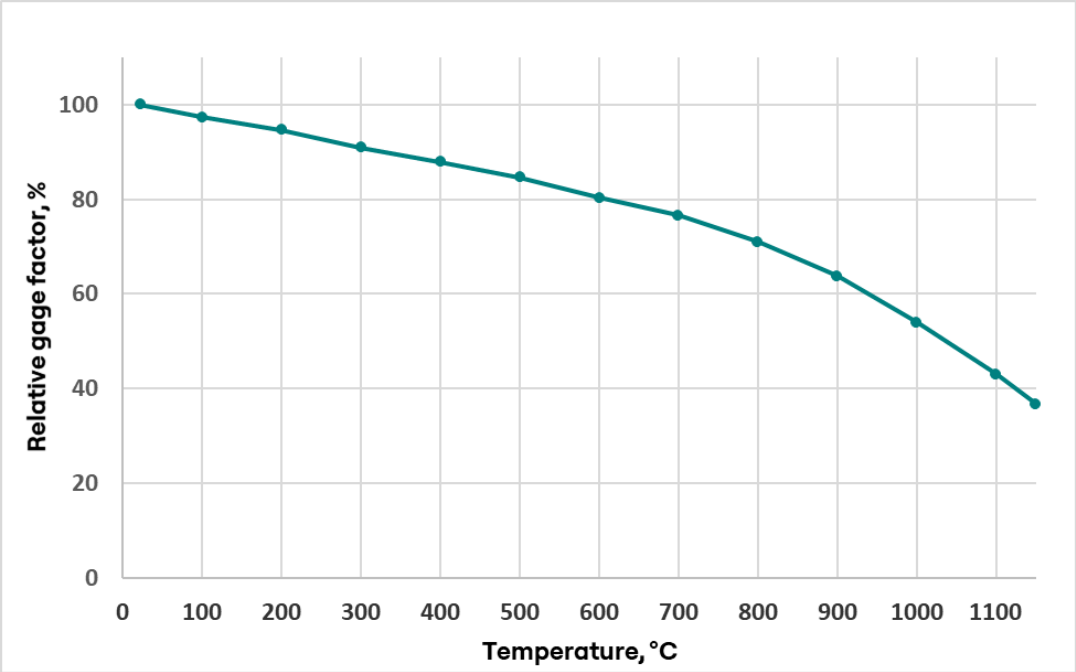
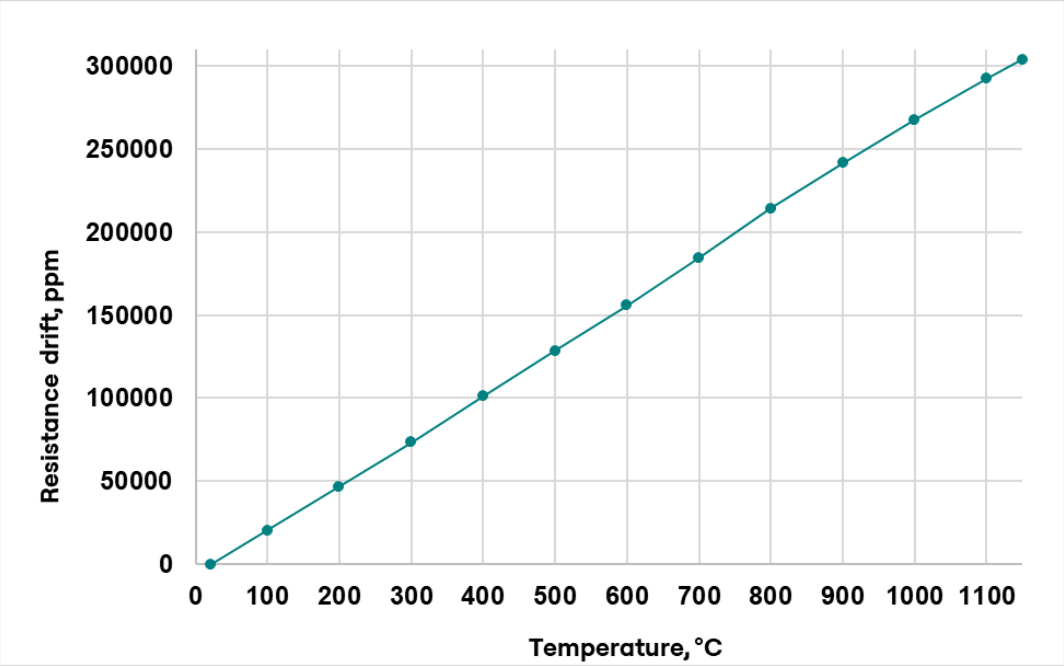


Diagram 2. Resistance drift due to temperature**



** Test is performed using single-component STP120-1.6AA-A1150-P007-50 gages installed on CrNi62MoWCoAl alloy beam with HPM CC-2 ceramic cement. Test performed with HTDR-1001 tool.

*Illustrative data, real parameters may differ from adhesive type and test beam material. Real test data for the batch of strain gages will have mentioned parameters indicated.