

BlueLine Pressure and Temperature Amplifier Types 5080A

- For pressure and temperature sensors
- With 4 or 16 measuring channels
- Data connection and power supply via a single Hybrid Bus Cable
- Also for pressure sensors with Sensitivity detection PRIASED®
- Signal input for thermocouples of types N, J, K, L
- Mechanically robust, space-saving and cascadable
- Several amplifiers can be mounted on a top hat rail without cable connection
- High resolution over the complete measuring range



Description

The types 5080A are a group of measuring amplifiers for temperature and pressure signals. The pressure and temperature amplifiers are each available in two versions: with 4 or 16 measuring channels. The amplifiers are robustly built and specially designed for the harsh environmental conditions in the mold area of an injection moulding machine.

The complete digital configuration and communication takes place via the VARAN real time bus. This allows several devices to be connected in series. The data exchange with the control device takes place via the standardized EUROMAP75 protocol.

The amplifiers amplify and convert incoming analog signals into digital measured values. These measured values are converted into normalized and physical quantities, that can be selected digitally. In parallel to this signal processing, the determined measured values are further analysed to support the melt flow detection.

Possible Applications

- Pressure and temperature monitoring
- Automatic switchover to holding pressure
- Real-time valve control
- Cascade control

Variants

BlueLine Amplifier for Cavity Pressure Signals with 4 Channels Type 5080A-4p

4 Single-Channel Connectors Fischer Type 102 TRIAX



BlueLine Amplifier for Cavity Pressure Signals with 16 Channels Type 5080A-16p

2 Multi-Channel Connectors Fischer Type 104, 16-pin



BlueLine Amplifier for Cavity Temperature Signals with 4 Channels Type 5080A-4T

4 Single-Channel Connector Fischer Type 101 TRIAX



BlueLine Amplifier for Cavity Temperature Signals with 16 Channels Type 5080A-16T

2 Multi-Channel Connector Fischer Type 104, 19-pin



Technical Data

General

Property	Specification
Dimensions (L x W x H)	100 x 100 x 71 mm (without connector) 100 x 112 x 71 mm (with connector)
Weight	0.661 kg (Type 5080A-4p) 0.663 kg (Type 5080A-16p) 0.627 kg (Type 5080A-4T) 0.672 kg (Type 5080A-16T)
Max. 5080A chain-linking without interlocking	4
Working temperature range	0 ... 70 °C
Storage temperature range	0 ... 85 °C
Relative humidity	0 ... 80 %
Protection class	IP65
Case resistance to water	Yes
Case resistance to oil	Yes
Power supply	18 ... 36 V
Power consumption	< 2.5 W
Max. ripple	2.5 Vpp
Max. current for cascade	2.0 A
Short-circuit protection	Yes
Revers polarity protection	Yes
Hot plug	Yes
Max. length of Bus cable	30 m
RoHS-compliant	Yes
Certification	CE, EN61326-1:2013

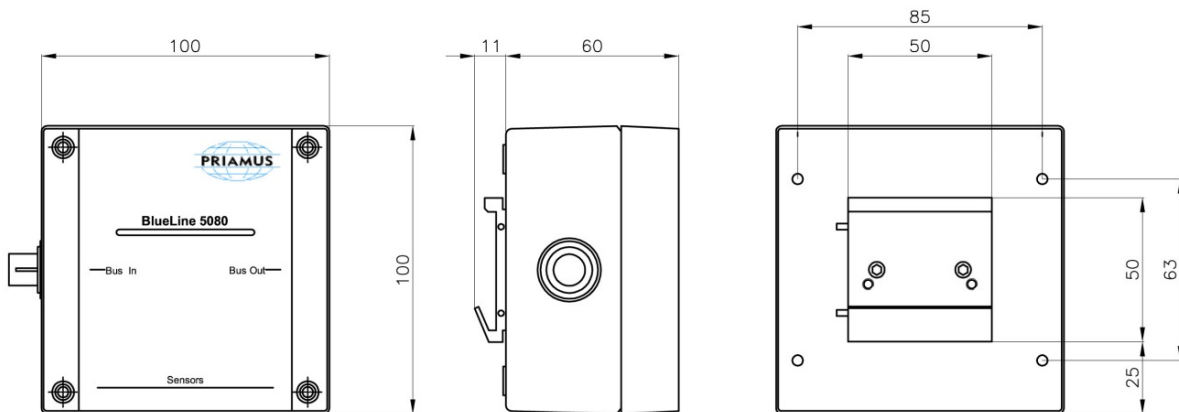
Temperature Amplifier

Property	Specification
Temperature range	0 ... 500 °C
Resolution (range: 500 °C)	0.15 °C
Electric isolation	$\pm 1 V_{max}$
Sensor	Types N, J, K, L
Automatic switchover	Type N
Measuring error	< $\pm 1 \%$
Analog bandwidth	1 kHz
Min. signal rise for automatic switchover	$\pm 1.5 \text{ } ^\circ\text{C}$
Cable break detection	Yes
Max. sensor cable length	10 m

Pressure Amplifier

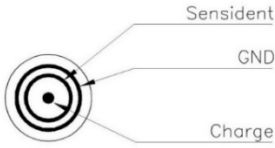
Property	Specification
Measuring range	0 ... 50'000 pC
Resolution	≈ 1 pC
Measuring error	< ± 1 %
Linearity	< 0.02 %
Temperature-dependent gain error	< ± 150 ppm/°C
Drift (at 20 °C)	< 0.03 pC/s
Reset time	≥ 10 ms
Reset-Operate	< 1 pC
Analog bandwidth	1 kHz
Min. signal rise time for automatic switchover	400 pC/s
Min. signal rise for automatic switchover	± 8 pC
Sensor sensitivity detection PRIASED®	Ja
Max. sensor cable length	10 m

Dimensions (in mm)

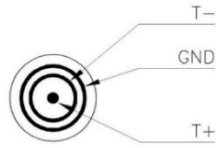


Pin Assignment for Sensor Connection

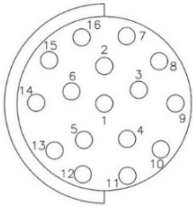
5080A-4p



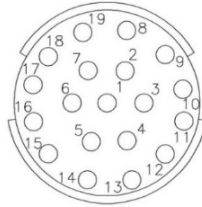
5080A-4T



5080A-16p



5080A-16T



Type 5080-16p			
Cable 1		Cable 2	
Pin	Designation	Pin	Designation
1	Charge 1	1	Charge 9
2	Sensident 1	2	Sensident 9
3	Charge 2	3	Charge 10
4	Sensident 2	4	Sensident 10
5	Charge 3	5	Charge 11
6	Sensident 3	6	Sensident 11
7	Charge 4	7	Charge 12
8	Sensident 4	8	Sensident 12
9	Charge 5	9	Charge 13
10	Sensident 5	10	Sensident 13
11	Charge 6	11	Charge 14
12	Sensident 6	12	Sensident 14
13	Charge 7	13	Charge 15
14	Sensident 7	14	Sensident 15
15	Charge 8	15	Charge 16
16	Sensident 8	16	Sensident 16

Type 5080-16T			
Cable 1		Cable 2	
Pin	Designation	Pin	Designation
1	T + 1	1	T + 9
2	T - 1	2	T - 9
3	T + 2	3	T + 10
4	T - 2	4	T - 10
5	T + 3	5	T + 11
6	T - 3	6	T - 11
7	T + 4	7	T + 12
8	T - 4	8	T - 12
9	T + 5	9	T + 13
10	T - 5	10	T - 13
11	T + 6	11	T + 14
12	T - 6	12	T - 14
13	T + 7	13	T + 15
14	T - 7	14	T - 15
15	T + 8	15	T + 16
16	T - 8	16	T - 16
17	GND	17	GND
18	Wire Bus	18	Wire Bus
19		19	

Accessories

Type number	Article
1041Ax	BlueLine connection cable for cavity pressure sensors Single-pin, with plastic sheath Both sides: Fischer connector type S 102 pos. TRIAX
1043Bx	BlueLine extension cable for cavity pressure sensors With metal sheath Side 1: Fischer connector type S 102 pos. TRIAX Side 2: Fischer connector type KBE 102 neg. TRIAX
1045Bx	BlueLine connection cable for cavity pressure sensors Multi-pin, with plastic sheath Side 1: Fischer connector type S 104 neg., 16-pin (Code 1) Side 2: 4 x Fischer connector type S 102 pos. TRIAX
1047Ax	BlueLine connection cable for cavity pressure sensors Multi-pin, with plastic sheath Side 1: Fischer connector type S 104 neg., 16-pin (Code 1) Side 2: Fischer connector type S 102 pos. TRIAX
1049Bx	BlueLine connection cable for cavity pressure sensors Single-pin, with plastic sheath Both sides: Fischer connector type S 102 pos. TRIAX
1054Bx	BlueLine connection cable for cavity pressure sensors Multi-pin, with plastic sheath Both sides: Fischer connector type S 104 neg., 16-pin (Code 1)
1141Ax	BlueLine connection cable for cavity temperature sensors Single-pin, with plastic sheath Both sides: Fischer connector type S 101 pos. TRIAX
1142Bx	BlueLine extension cable for cavity pressure sensors Single-pin, with metal sheath Side 1: Fischer connector type S 101 pos. TRIAX Side 2: Fischer connector type KBE 101 neg. TRIAX
1144Ax	BlueLine connection cable for cavity temperature sensors Multi-pin, with plastic sheath Both sides: Fischer connector type S 104 neg. 19-pin (Code 2)
1145Ax	BlueLine connection cable for cavity temperature sensors Multi-pin, with plastic sheath Side 1: Fischer connector type S 104 neg. 19-pin (Code 2) Side 2: Fischer connector type S 101 pos. TRIAX

Type number	Article
1147Bx	BlueLine connection cable for cavity temperature sensor Multi-pin, with plastic sheath Side 1: Fischer connector type S 104 neg. 19-pin (Code 2) Side 2: 4 × Fischer connector type S 101 pos. TRIAX
1149Bx	BlueLine connection cable for cavity temperature sensors Single-pin, with metal sheath Both sides: Fischer connector type S 101 pos. TRIAX
1194A-8T	BlueLine multi-channel connecting box for temperature signals For connecting a maximum of 8 cavity temperature sensors
1195A-8p	BlueLine multi-channel connecting box for pressure signals For connecting a maximum of 8 cavity pressure sensors
5070A-2p2T-VARAN	BlueLine pressure and temperature amplifier VARAN Pressure: 2 × Single-channel connectors Fischer type 102 TRIAX / BNC Temperature: 2 × Single-channel connectors Fischer type 102 TRIAX
8280C	BlueLine Core Control unit for monitoring and controlling of the injection molding process
8911A	BlueLine signal tester set Test device for checking cavity temperature and cavity pressure sensors. Complete set with numerous accessories in foam case
8952A	BlueLine signal tester Test device for checking cavity temperature and cavity pressure sensors.
8980C	BlueLine I/O Master Basic module for transmitting control signals between the injection molding machine and the BlueLine system.
8981A	BlueLine I/O Expander Extension module for transmitting control signals between the injection molding machine and the BlueLine system.
8982A	BlueLine Bus Interface Coupling module between I/O modules for mounting on top hat rail bus, for transmitting control signals between the injection molding machine and the BlueLine system.
8983A	BlueLine Voltage input module For collecting voltage signals of the injection molding machine
8984A	BlueLine control cabinet Control cabinet with transparent front door for maximum 64 switching signals With 1 BlueLine I/O Master type 8980C and optionally 1–4 BlueLine I/O Expander type 8981A

Type number	Article
8985A	BlueLine control cabinet Control cabinet with transparent front door for maximum 96 switching signals with 1 BlueLine I/O Master type 8980C and optionally 1–6 BlueLine I/O Expander type 8981A
9015A	BlueLine inductive switch for easy starting and measuring
9016A	BlueLine power supply unit for: - BlueLine amplifiers types 5080A - BlueLine Core type 8280C
9080A	BlueLine top hat rail bus For mounting of several interconnected BlueLine devices such as I/O Master or I/O Expander