EMI®
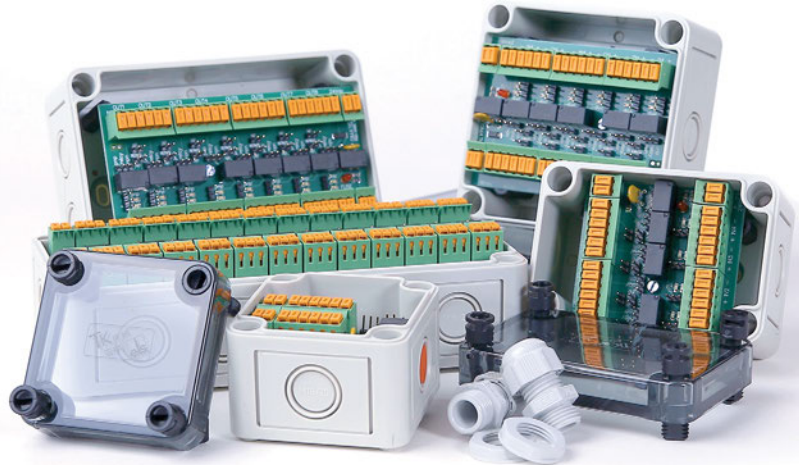
Sensor Junction Box – SB

- Connect different types of sensors individually or in a series.

- Signals can be converted (PNP to NPN & NPN to PNP).

- I/O may be PNP = sourcing, NPN = sinking, or dry contact.

- Self-stripping wire connectors are used for fast & easy wiring.

- Several boxes may be connected in a series to accommodate additional sensors.

- LED indicators allow for easy troubleshooting.

- Regenerates signals & protects contacts.

- Profile mounting kit & four strain reliefs are included.

EMI®

Watch our How-To Sensor Box Video!

Sensor Junction Box

Quick#	Part#	Max. # of Sensors	Price
6753	SB2C	2	$67.00
6754	SB4C	4	$89.00
6685	SB6C	6	$150.00
6755	SB8C	8	$163.00
6686	SB12C	12	$232.00

Sensor Junction Box Mounting Brackets (optional)

Quick#	Part#	Price	Dimensions:
6737	SB2C-MP	$11.05	65x84x3
6738	SB4C-MP	$12.22	94x84x3
6687	SB6C-MP	$13.00	113x94x3
6739	SB8C-MP	$14.95	130x113x3
6688	SB12C-MP	$16.84	180x113x3

Note: All brackets have a 20mm tab for optional mounting position.

Replacement Jumpers

| Quick#	Part#	Price	Description
7605	SB-JUMPER-18	$1.60	Qty: 18 Jumpers, For SB2C, SB4C, SB6C
7606	SB-JUMPER-31	$2.60	Qty: 31 Jumpers, For SB8C, SB12C
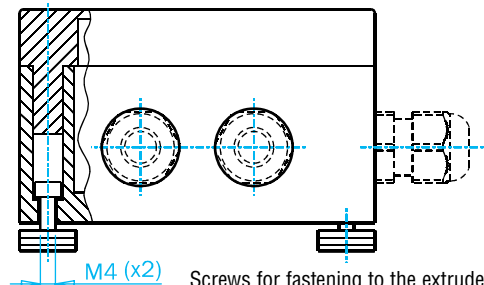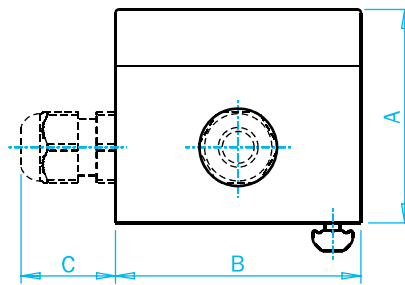
M4 (x2)   Screws for fastening to the extruded profile
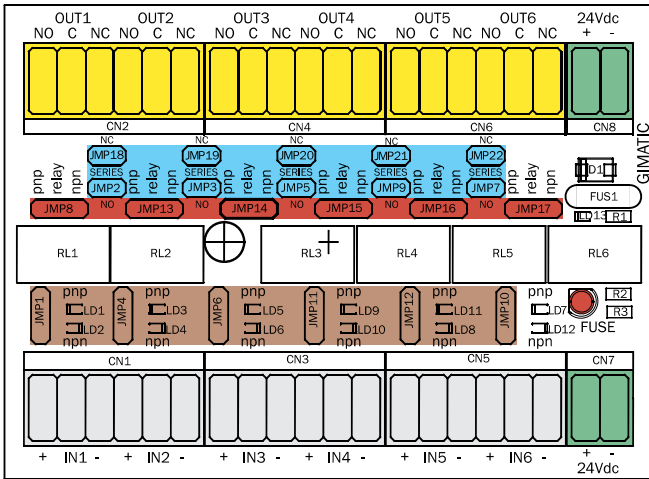
Use Quick#s for easy online ordering.

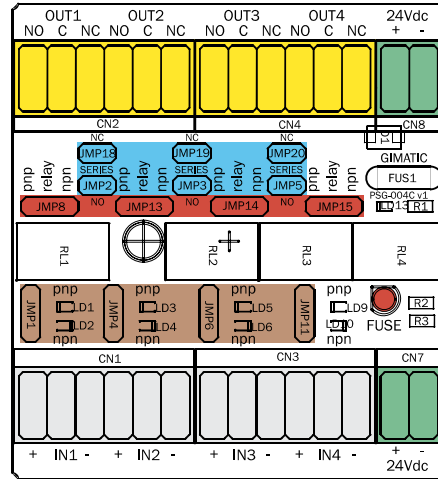|	SB2C	SB4C	SB6C	SB8C	SB12C	SB8F	SB15T
A	57	57	57	57	57	57	57
B	65	65	94	94	94	65	65
C	25	25	25	25	25	25	25
D	65	94	94	130	180	94	94
E	50	79	79	115	165	79	79
F	50	50	79	79	79	50	50
G	n°2	n°3	n°4	n°6	n°8	n°3	n°3
Wt.	120g	160g	190g	235g	325g	165g	150g
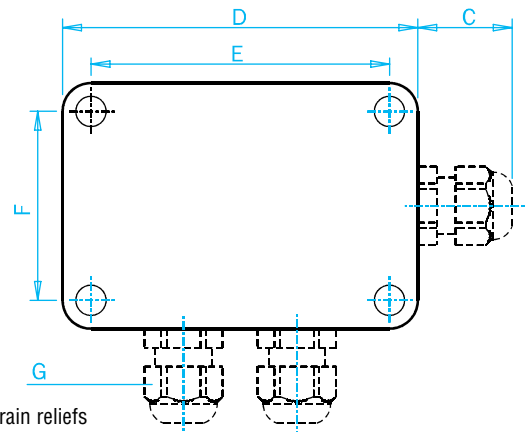
Strain reliefs
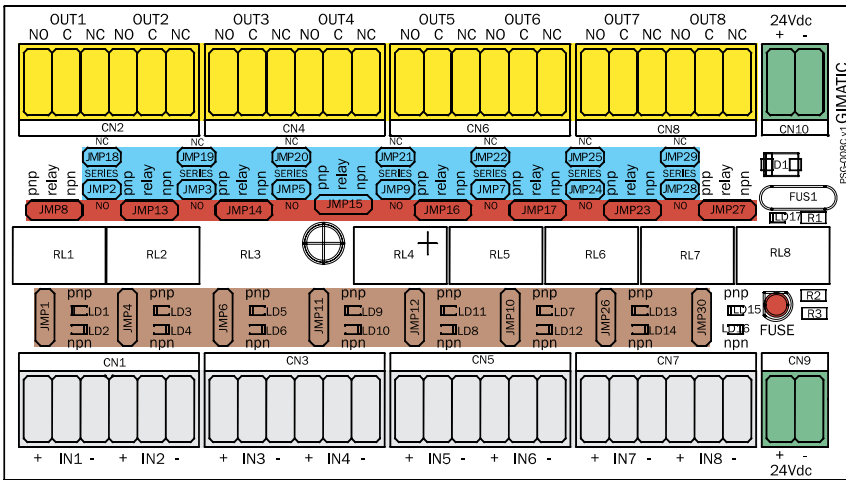
Sensor Junction Box – SB

SB6C 6 sensors maximum
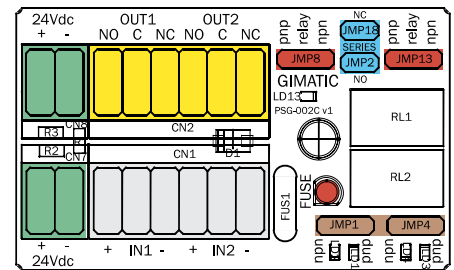

SB4C 4 sensors maximum
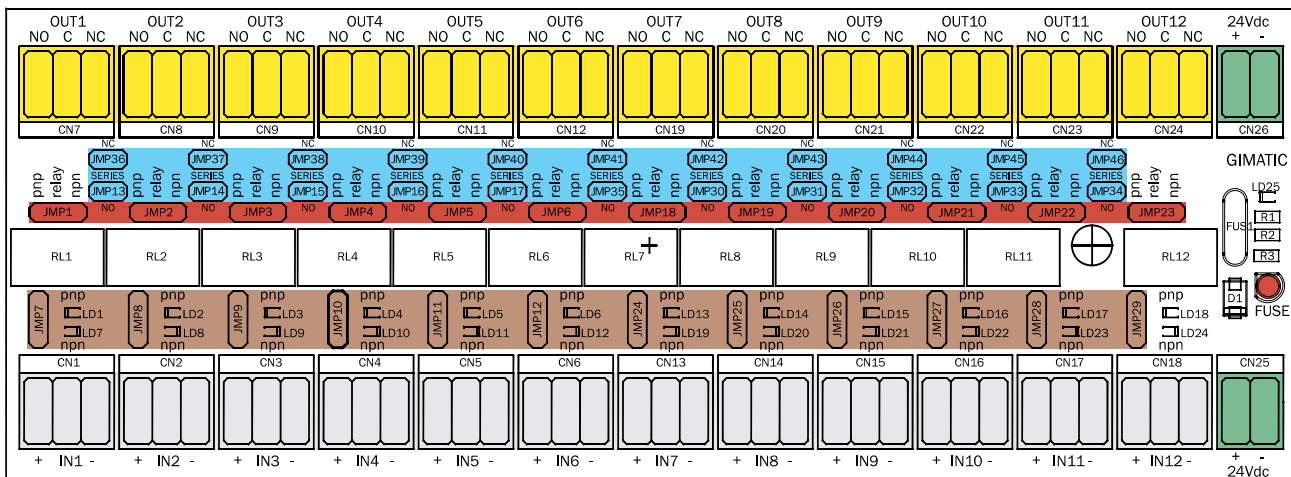

SB8C 8 sensors maximum

Color legend:

- Green = 24V dc (+/- 10%)
- Gray = Sensor input area
- Brown = Jumper selector for input sensor type
- Red = Jumper selector for desired output
- Blue = Jumper selector for Series connections (NO = Normally Open) or (NC = Normally Closed)
- Yellow = Output area

SB2C 2 sensors maximum

SB12C 12 sensors maximum

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Sensor Junction Box – SB

Sensor Box Examples:

It's necessary to connect all sensors in succession when a series connection is desired. Normally open (NO) or Normally closed (NC).
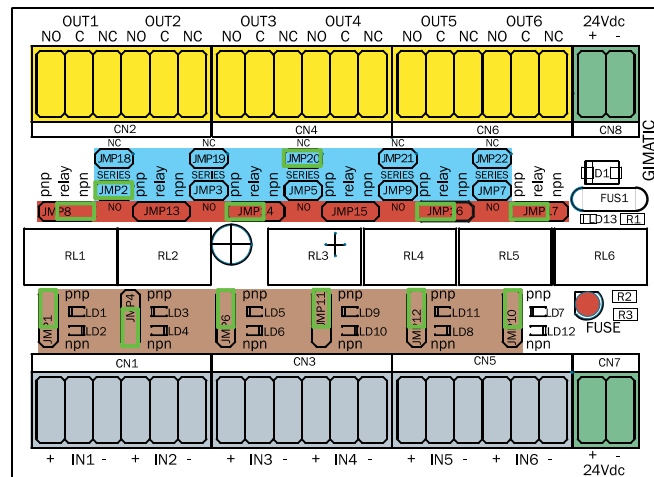
Color legend:

- Green = 24V dc (+/- 10%)
- Gray = Sensor input area
- Brown = Jumper selector for input sensor type
- Red = Jumper selector for desired output
- Blue = Jumper selector for Series connections (NO = Normally Open) or (NC = Normally Closed)
- Yellow = Output area
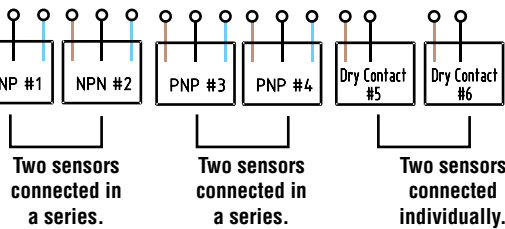- Green rectangle= Jumper

Example 1

SB6C
2 Sensors in a series + 2 sensors in a series + 2 sensors individually

(NO) NPN output for series connection #1–2

(NC) PNP output for series connection #3–4

(NO) PNP output for individual connection #5

(NO) PNP output for individual connection #6

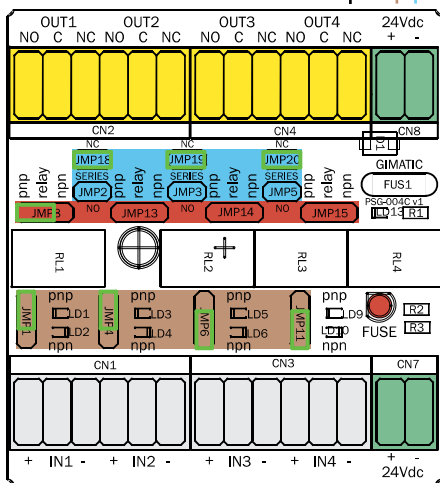24Vdc Power may be supplied to either of the green terminals.

PNP #1 NPN #2 PNP #3 PNP #4 Dry Contact #5 Dry Contact #6

Two sensors connected in a series. **Two sensors connected in a series.** **Two sensors connected individually.**

Example 2

SB4C
4 Sensors in a series
(Normally closed output)

(NC) PNP output for series connection of sensors #1–4

24Vdc Power may be supplied to either of the green terminals.

PNP #1 PNP #2 NPN #3 NPN #4
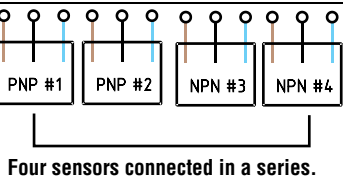
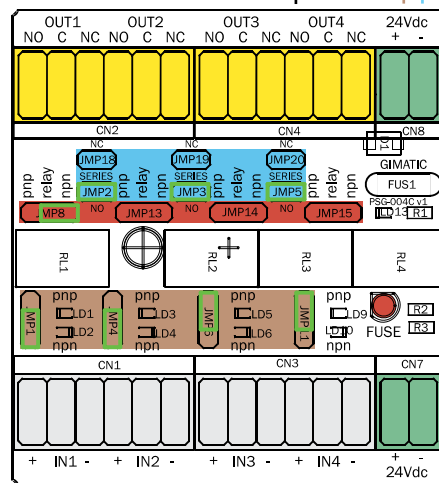**Four sensors connected in a series.**
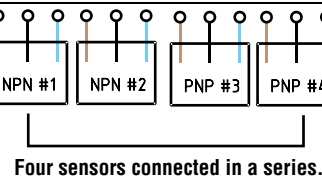
Example 3

SB4C
4 Sensors in a series
(Normally open output)

(NO) NPN output for series connection of sensors #1–4

24Vdc Power may be supplied to either of the green terminals.

NPN #1 NPN #2 PNP #3 PNP #4

Four sensors connected in a series.

Sensor Junction Box – SB

The SB series sensor junction boxes are designed to condition sensor signals and ultimately provide signals suitable for a PLC. The board is equipped with a self-restoring fuse which protects the controls from possible short circuit. The electrical box is equipped with PG9 cable connectors which provide IP65 protection of the board. The push-down wire connectors also strip the wire. A manual included with the sensor box will demonstrate this, and more.

Example 4

SB6C
3 Sensors in a series + 3 sensors individually

Color legend:

- Green = 24V dc (+/- 10%)
- Gray = Sensor input area
- Brown = Jumper selector for input sensor type
- Red = Jumper selector for desired output
- Blue = Jumper selector for Series connections (NO = Normally Open) or (NC = Normally Closed)
- Yellow = Output area
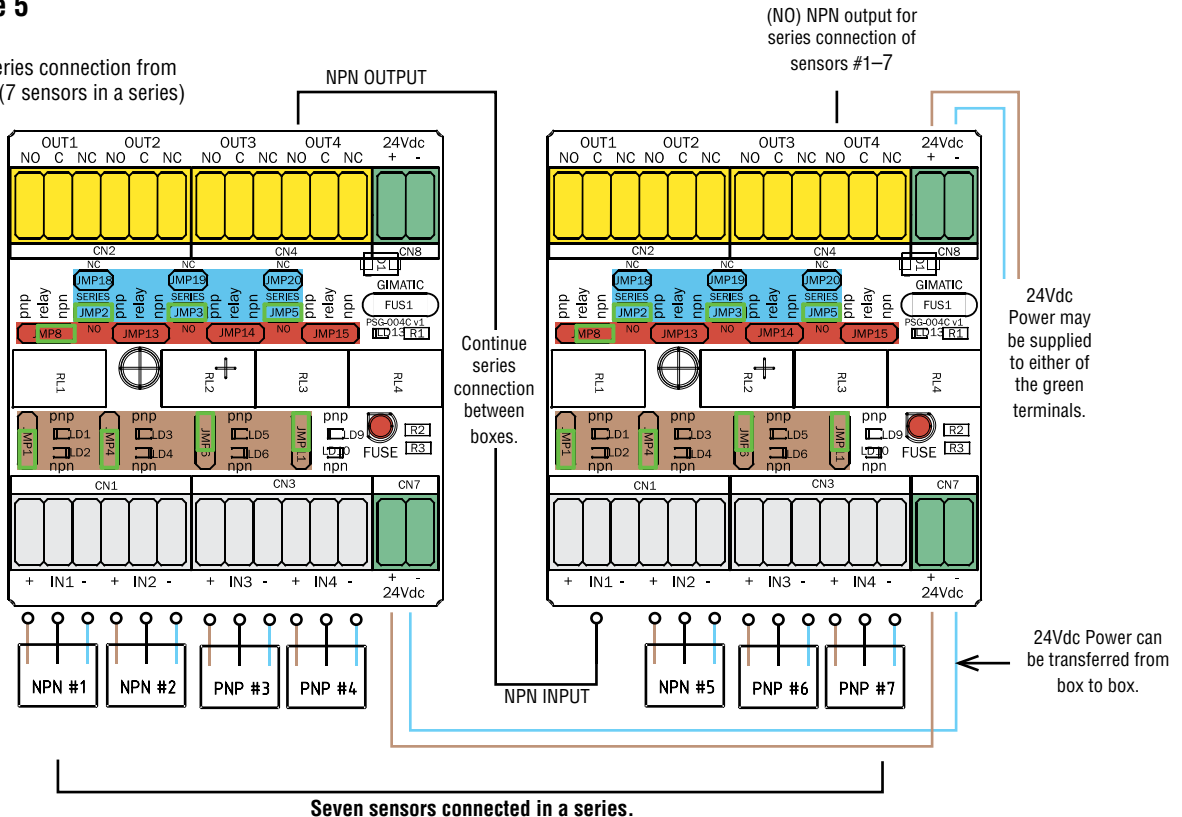- Green Rectangle = Jumper
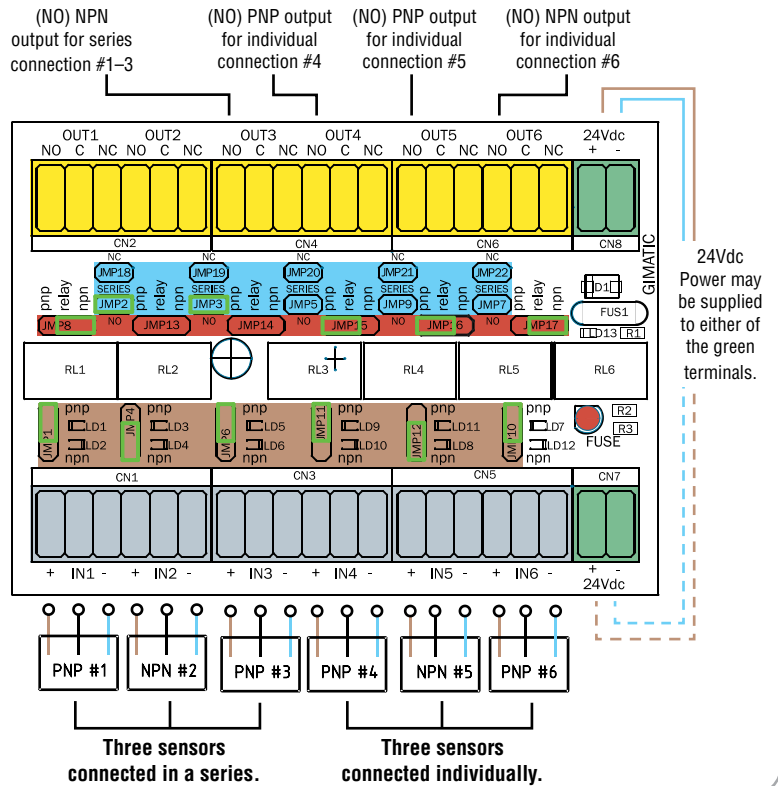
Example 5

(2x)SB4C
Continue series connection from box to box (7 sensors in a series)

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SB – Microprocessor Box

Box N2 -Slave

Color legend:

Green = 24V dc (+/- 10%)

Gray = Sensor input area

Brown = Jumper selector for input sensor type

Orange = For connecting multiple boxes in series

Blue = Autoset Button

Yellow = Output area

REED SENSOR
REED SENSOR
PNP SENSOR
PNP SENSOR

IN8   IN7   IN6   IN5

COM DRY CONTACT OUT
NC DRY CONTACT OUT
NO DRY CONTACT OUT

STORED
READING

npn   npn   npn   IN5 npn
pnp   pnp   pnp   pnp
IN8   IN7   IN6

24Vdc
NPN OUT
PNP OUT

IN1   STORED   AUTOSET
pnp   READING
npn   IN2 IN3   IN4
       pnp   pnp   pnp
       npn   npn   npn

LINK IN

POWER

IN1   IN2   IN3   IN4

NPN SENSOR
NPN SENSOR
PNP SENSOR
PNP SENSOR
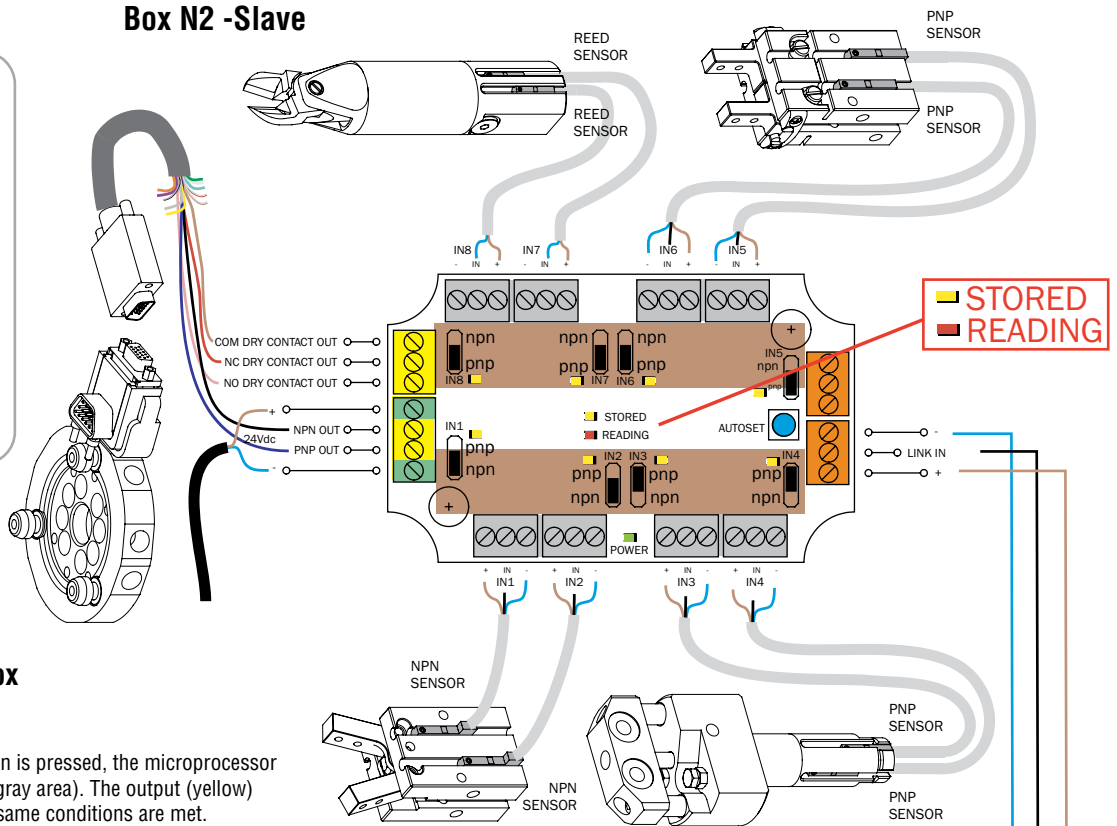
Microprocessor Sensor Box

(Dimensions shown on page 988)

Functioning: When the autoset button is pressed, the microprocessor memorizes the status of the inputs (gray area). The output (yellow) area will be activated every time the same conditions are met.
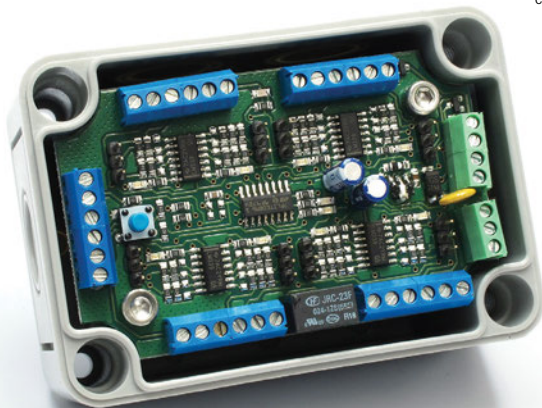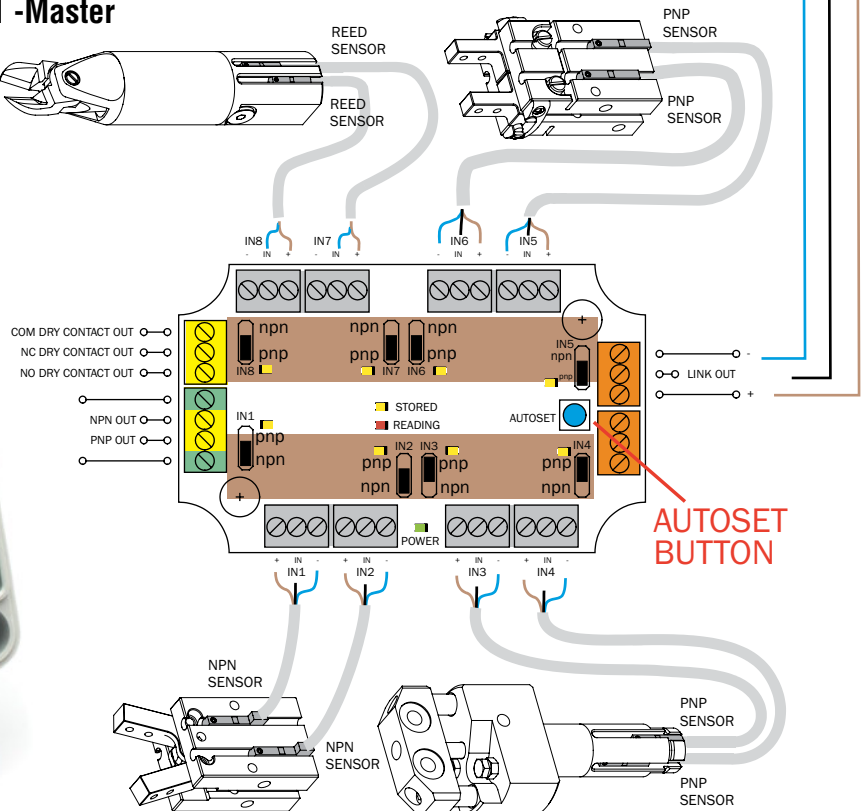
Inputs: Maximum 8 PNP, NPN or dry contact (NO or NC) sensors switched by jumpers (brown area).

Outputs: 1 PNP, NPN or dry contact (NO or NC) (yellow area) output.

Microprocessor Sensor Box

Quick#	Part#	Price
6461	SB8F	$170.00

Box N1 -Master

REED SENSOR
REED SENSOR
PNP SENSOR
PNP SENSOR

IN8   IN7   IN6   IN5

COM DRY CONTACT OUT
NC DRY CONTACT OUT
NO DRY CONTACT OUT

npn   npn   npn   IN5 npn
pnp   pnp   pnp   pnp
IN8   IN7   IN6

NPN OUT
PNP OUT

IN1   STORED   AUTOSET
pnp   READING
npn   IN2 IN3   IN4
       pnp   pnp   pnp
       npn   npn   npn

LINK OUT

AUTOSET BUTTON

POWER

IN1   IN2   IN3   IN4

NPN SENSOR
NPN SENSOR
PNP SENSOR
PNP SENSOR

Terminal Box – SB

Terminal Cabling Box
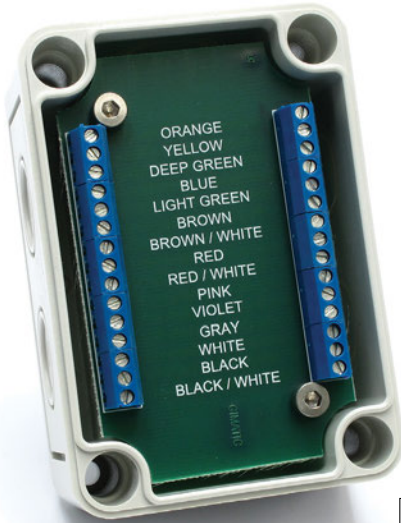
(Dimensions shown on page 988)

This terminal box is used primarily for EOAT's using multiple electrical boxes. Use this terminal box as a junction area between outputs from multiple electrical boxes and the electrical cable from the quick changer.
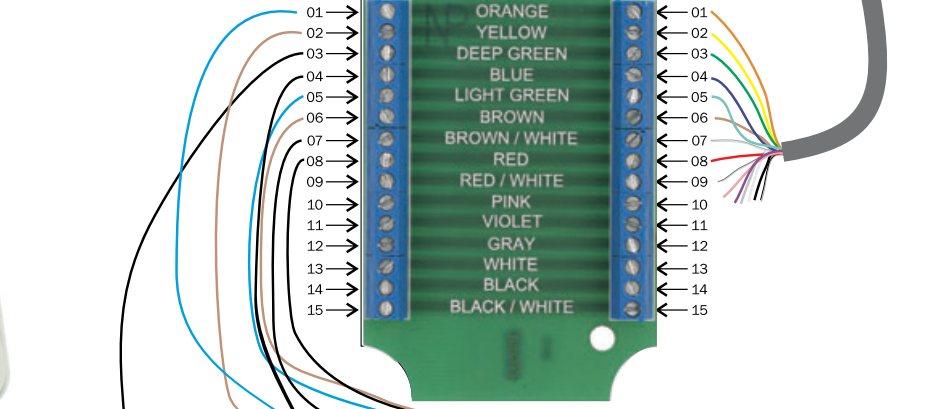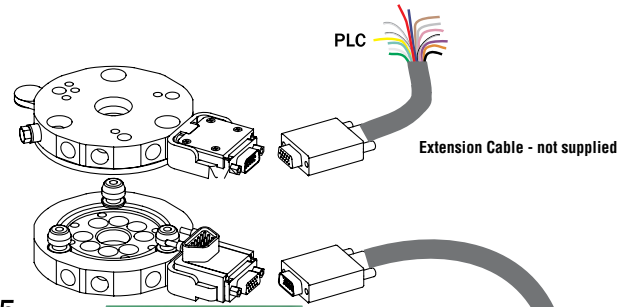
Inputs: 15 inputs (to outputs)

Outputs: 15 outputs (from inputs)

Terminal Cabling Box

Quick#	Part#	Price
5308	SB15T	$78.20

PLC

Extension Cable - not supplied

SB15

ORANGE
YELLOW
DEEP GREEN
BLUE
LIGHT GREEN
BROWN
BROWN / WHITE
RED
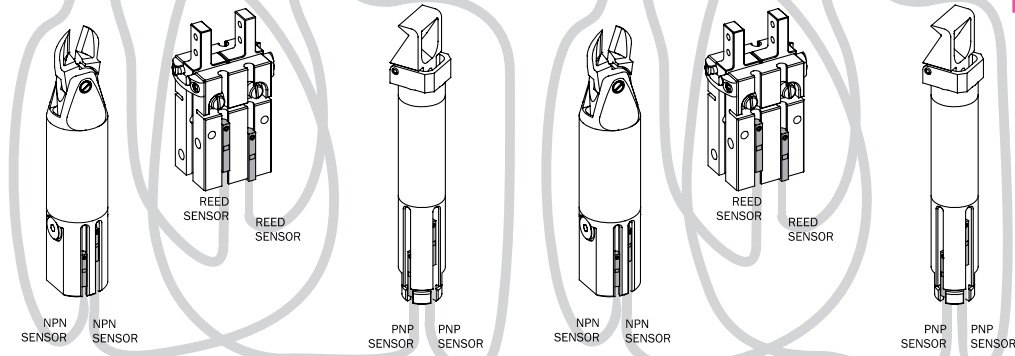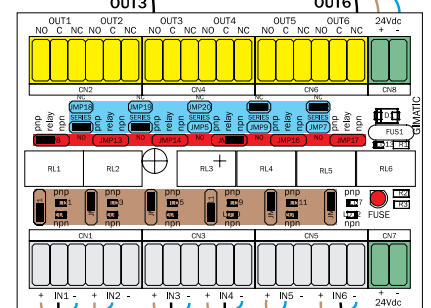RED / WHITE
PINK
VIOLET
GRAY
WHITE
BLACK
BLACK / WHITE

PNP NO signal output for all pneumatic devices "open" by IN1, IN2, IN3 series

NPN NC signal output for all pneumatic devices "closed" by IN4, IN5, IN6 series
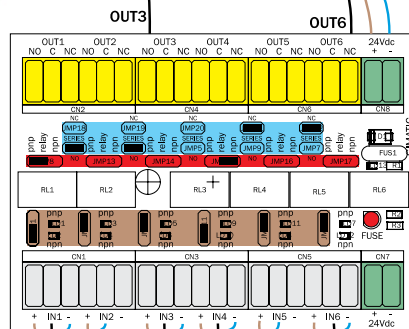
PNP NO signal output for all pneumatic devices "open" by IN1, IN2, IN3 series

NPN NC signal output for all pneumatic devices "closed" by IN4, IN5, IN6 series

REED SENSOR
REED SENSOR

NPN SENSOR   NPN SENSOR

PNP SENSOR   PNP SENSOR

REED SENSOR
REED SENSOR

NPN SENSOR   NPN SENSOR

PNP SENSOR   PNP SENSOR

EOAT

EOAT