

SI-JET Series

▶ SI-JET Laser Spray Jet Control System

By means of three laser light barriers integrated in a transmitter and receiver unit the SI-JET laser spray jet control system checks the density, symmetry, and cone angle of the spray jet.

Choked or incorrectly set nozzles can thus be detected in time.

A comprehensive software (*SPRAYER-Scope*) allows parameterization of the system via Windows®.

By using the supplied adjustment facility the laser transmitter unit can be easily and comfortably aligned with the receiver unit.



Characteristics

Product name:

Max. distance of 400 mm between transmitter/receiver:

SI-JET-T-400 (transmitter)

SI-JET-R-400 (receiver)

Max. distance of 1000 mm between transmitter/receiver:

SI-JET-T-1000 (transmitter)

SI-JET-R-1000 (receiver)

Max. distance of 2000 mm between transmitter/receiver:

SI-JET-T-2000 (transmitter)

SI-JET-R-2000 (receiver)

Electronic control unit:

SI-CON3

(incl. software SPRAYER-Scope)

Cleansing device for transmitter respectively receiver:

SI-JET-BLOW-T

SI-JET-BLOW-R

Mounting device (suitable for transmitter and receiver):

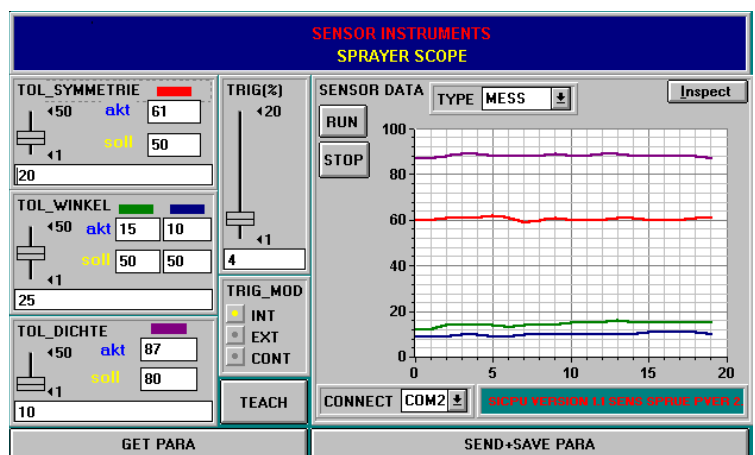
SI-JET-MOUNT

Collimated laser light

Laser diodes are light sources which, due to their extremely small aperture, are excellently suited for the generation of almost parallel light. This means that a relatively large distance between the transmitter and receiver units can be realized, which in turn guarantees that dirt accumulation at the transmitter and receiver is considerably reduced. All this allows trouble-free measurement even over extended periods of time.

Parameterizable under Windows®

The SPRAYER-Scope software that is included in the package serves for numerical and graphic visualization of the analog values supplied by the laser light barriers. SPRAYER-Scope also allows adjustment of the parameters and tolerance thresholds required for proper operation of spraying system.



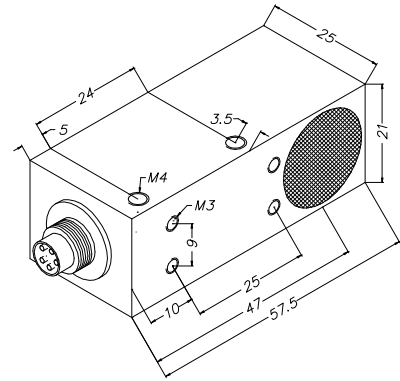
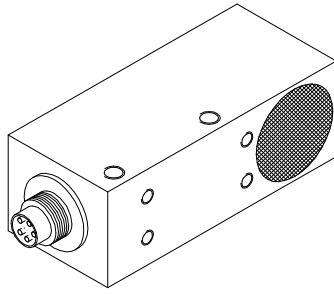

Technical Data

Model	SI-JET-400	SI-JET-1000	SI-JET-2000
Laser	Semiconductor laser, 670 nm, 1 mW max. optical output, laser class 2 acc. to DIN EN 60825. The use of these laser transmitters therefore requires no additional protective measures.		
Max. distance transmitter/receiver	400 mm	1000 mm	2000 mm
Optical filter	Interference filter		
Voltage supply	via electronic control unit SI-CON3: +5V (transmitter), +12V (receiver)		
Enclosure rating	IP67		
Current consumption	Transmitter: typ. 100 mA, Receiver: typ. 20 mA		
Laser beam dimensions	typ. 3 mm x 1 mm		
Beam divergency	typ. 2 mrad		
Operating temperature range	-10°C ... +50°C		
Storage temperature range	-20°C ... +85°C		
Housing material	Stainless steel (V2A)		
Type of connector	Transmitter: 5-pin connector type Binder Series 712, Receiver: 8-pin connecto type Binder Series 712		

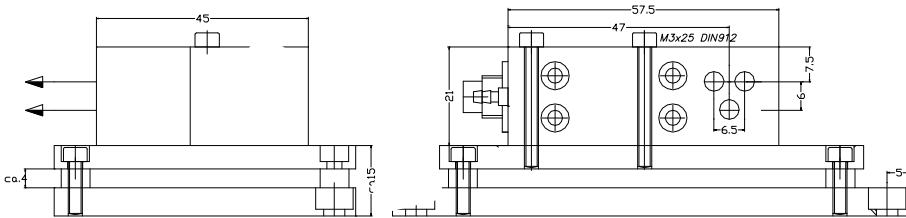
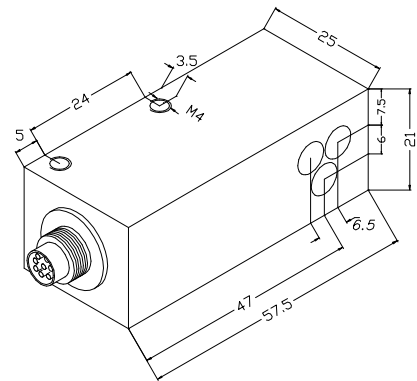
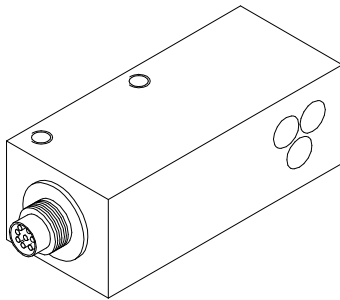
Model	SI-CON3 Electronic Control Unit
Voltage supply	+24VDC ± 2 VDC
Current consumption	typ. 200 mA
Operating temperature	0°C ... 50°C
Enclosure rating	IP65
Housing material	Aluminum, anodized in blue
Housing dimensions	120 mm x 50 mm x 40 mm
Type of connector	Connection to PC: 5-pin female connector type Binder Series 712 Connection to PLC: 7-pin connector type Binder Series 712

Dimensions

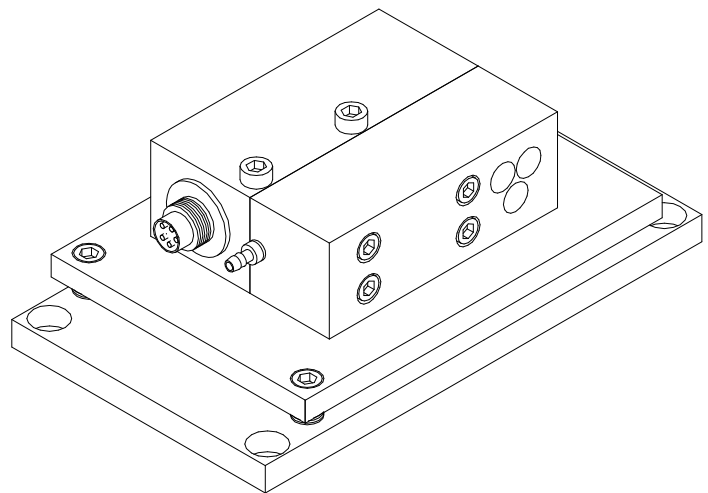
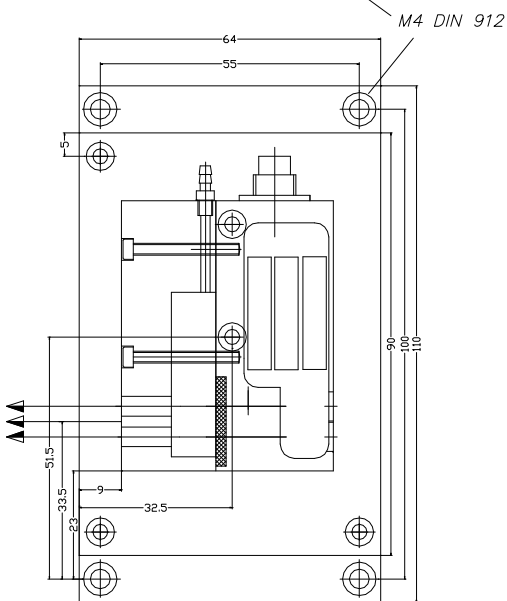
SI-JET-T...
(transmitter)



SI-JET-R...
(receiver)



SI-JET-MOUNT
(mounting unit for transmitter respectively receiver)



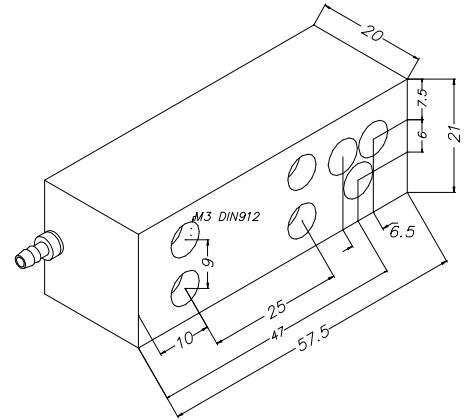
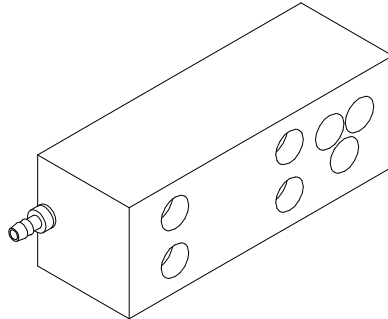
All dimensions in mm



Dimensions

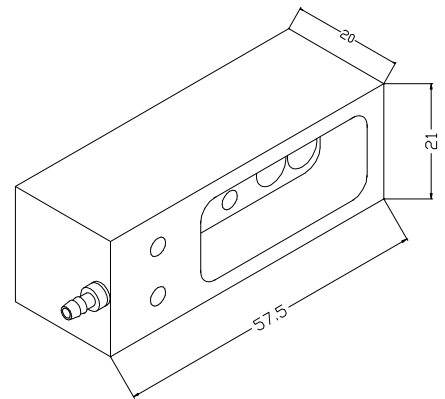
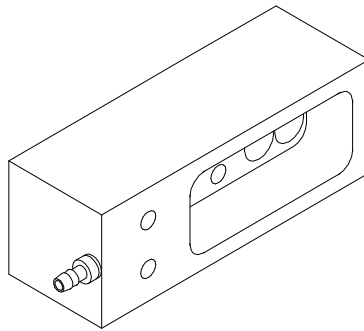
SI-JET-BLOW-T

(cleansing device for transmitter)



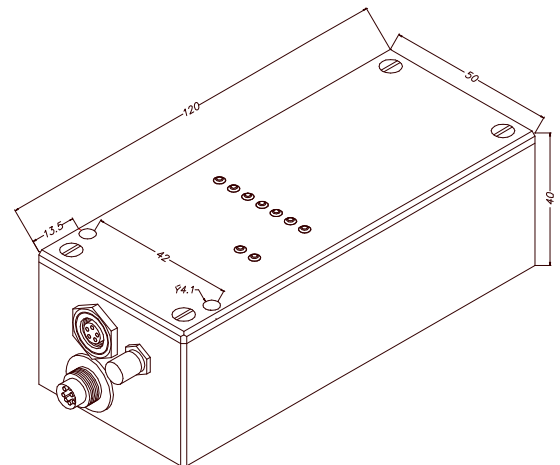
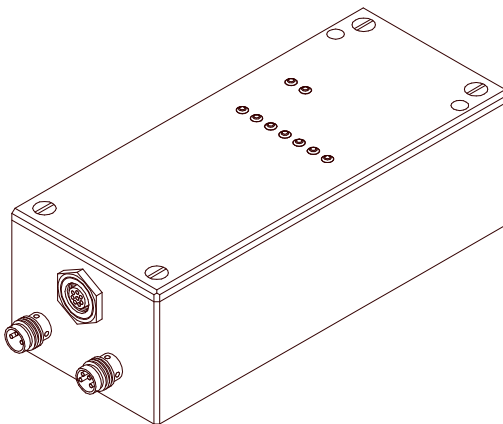
SI-JET-BLOW-R

(cleansing device for receiver)



SI-CON3

(electronic control unit)



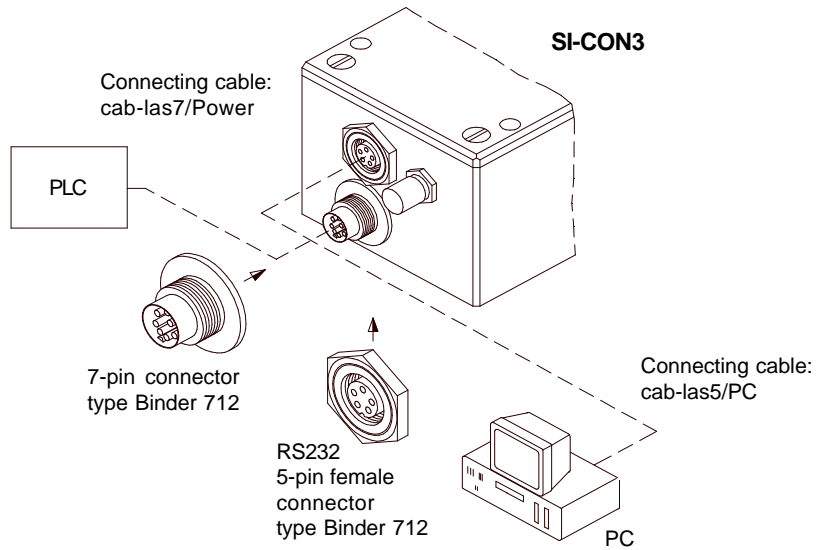
All dimensions in mm



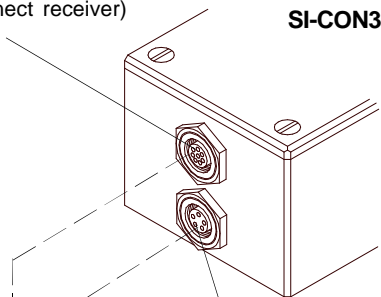
Connector Assignment

Connection of SI-CON3 to PLC:

Pin No.:	Color:	Assignment:
1	wht	GND (0V)
2	brn	+24VDC
3	grn	OUT1 busy
4	yel	OUT2 error
5	gry	IN1 ext. trigger input
6	pnk	IN0 ext. trigger sensor free
7	blu	n.c.

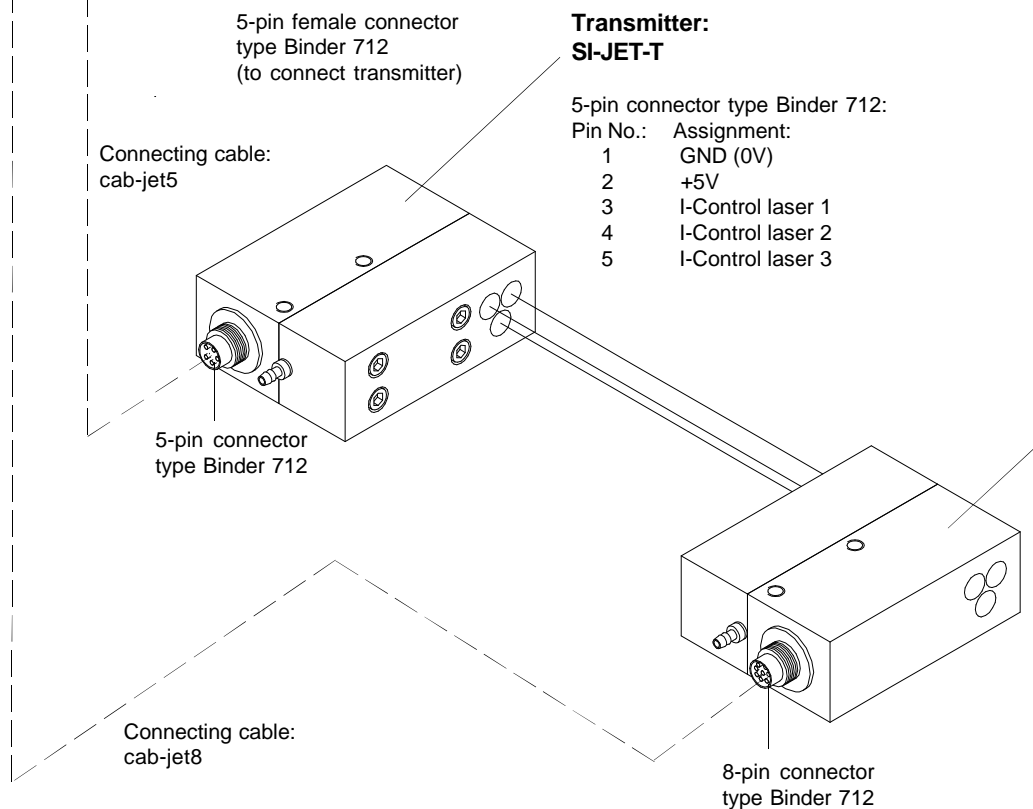


8-pin female connector
type Binder 712
(to connect receiver)



Connection of SI-CON3 to PC (RS232):

Pin No.:	Assignment:
1	GND (0V)
2	TX0
3	RX0
4	n.c.
5	n.c.



Transmitter:
SI-JET-T


5-pin connector type Binder 712:

Pin No.:	Assignment:
1	GND (0V)
2	+5V
3	I-Control laser 1
4	I-Control laser 2
5	I-Control laser 3

Receiver:
SI-JET-R

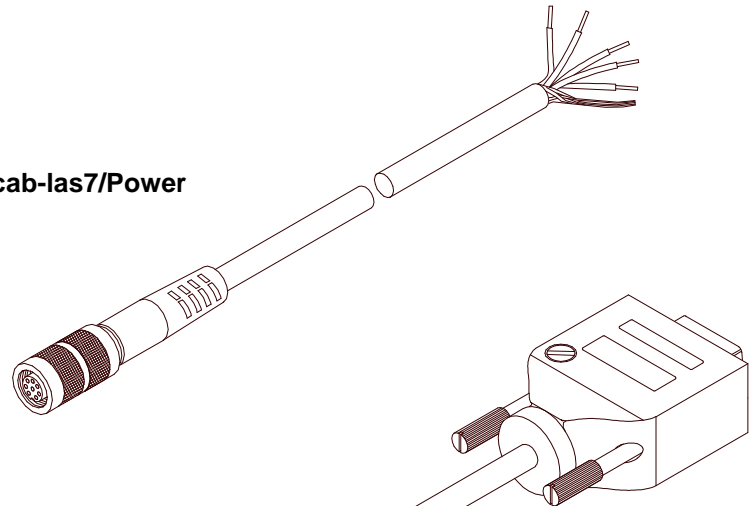
8-pin connector type Binder 712

Pin No.:	Assignment:
1	GND (0V)
2	n.c.
3	+12V
4	n.c.
5	n.c.
6	Analog E1
7	Analog E2
8	Analog R3


 Connecting Cables
cab-las7/Power

7-pin cable for connection of SI-CON3 to PLC
(cable length: 2m or 5m)

Pin No.:	Color:	Assignment:
1	wht	GND (0V)
2	brn	+24VDC
3	grn	OUT1 busy output
4	yel	OUT2 error output
5	gry	IN1 ext. trigger input
6	pnk	IN0 ext. trigger sensor free
7	blu	n.c.

cab-las7/Power**cab-las5/PC**

5-pin cable for connection of SI-CON3 to PC (RS232)
(Cable length: 2m or 5m)

Pin No.:	Assignment:
1	GND (0V)
2	TX0
3	RX0
4	n.c.
5	n.c.

cab-las5/PC**cab-jet8**

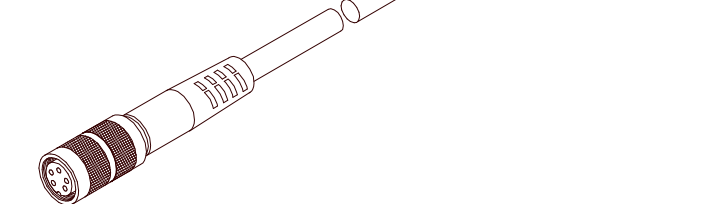
8-pin cable for connection of SI-JET-R to SI-CON3
(cable length: 2m or 5m)

Pin No.:	Assignment:
1	GND (0V)
2	n.c.
3	+12VDC
4	n.c.
5	n.c.
6	Analog E1
7	Analog E2
8	Analog E3

cab-jet8**cab-jet5**

5-pin cable for connectio of SI-JET-T to SI-CON3
(cable length: 2m or 5m)

Pin No.:	Assignment:
1	GND (0V)
2	+5V
3	I-Control laser 1
4	I-Control laser 2
5	I-Control laser 3

cab-jet5

 Laser Warning

The transmitters of the laser spray jet control system SI-JET comply with laser class 2 according to EN 60825.

The use of these laser transmitters therefore requires no additional protective measures.

The transmitters SI-JET-T-... are supplied with a laser warning label.



LASER RADIATION
DO NOT STARE INTO THE BEAM
CLASS II LASER PRODUCT