

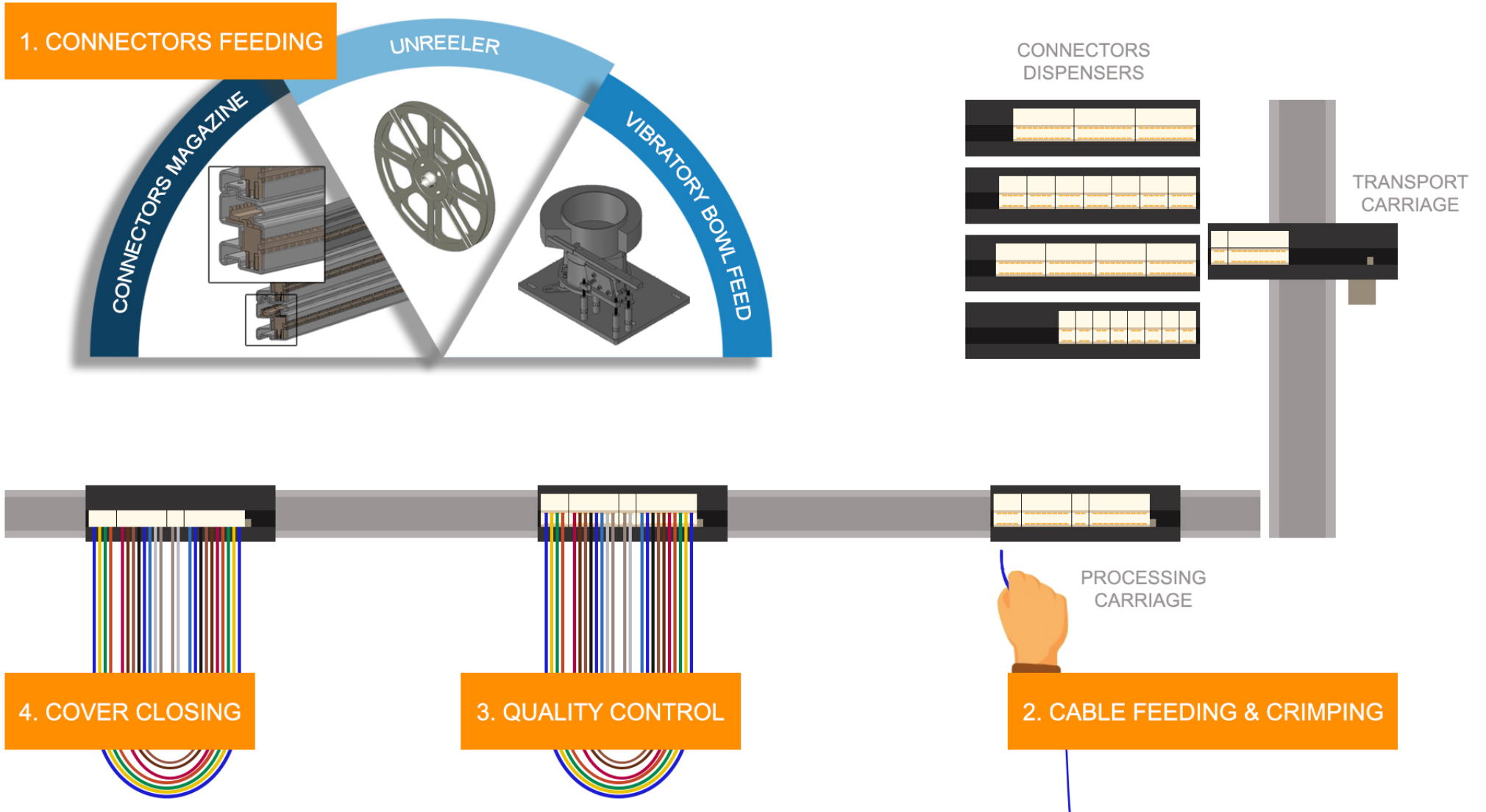
Sm IDC

INSULATION DISPLACEMENT CONTACT



Wire processing

SM IDC PROCESS FLOW



IDC (insulation displacement connection) machine provides time- and cost-effective alternative to terminal crimping and soldering.

Solid or stranded wires are inserted into the connection slots unstripped and pressed with much lower forces than crimping requires. IDC termination facilitates the rapid assembly of high-density wiring harnesses. Obtained connectors withstand harsh environment (e.g. from -40 to + 125 C° temperature range, high humidity, mechanical stresses).

SM Contact designs, produces and services IDC equipment.

A blue ribbon graphic pointing downwards, containing the word 'ADVANTAGES' in white, uppercase letters.

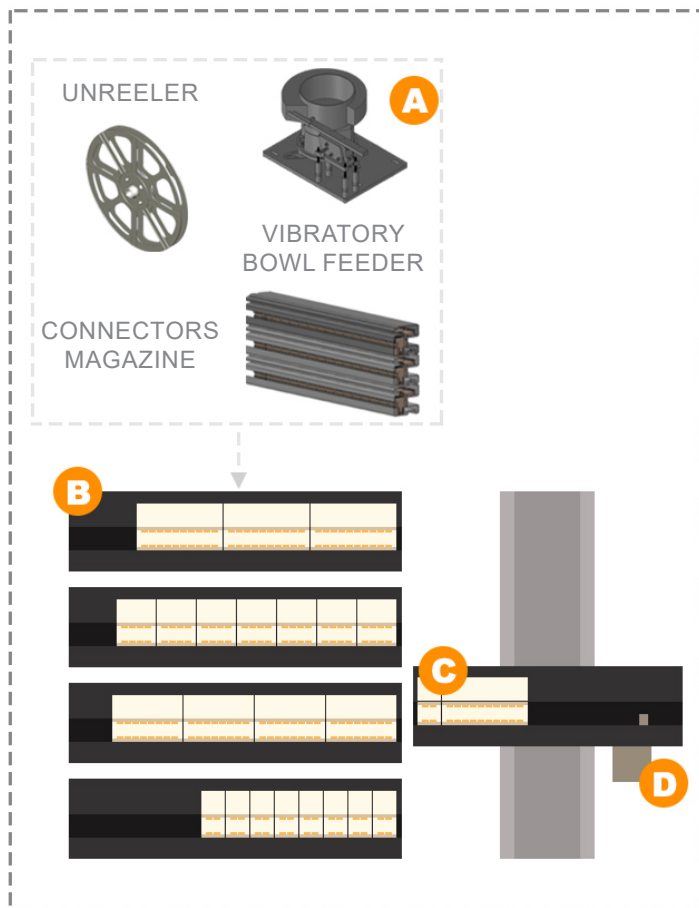
ADVANTAGES

- Low installation costs
- Modular concept → Customisable
- Empty-chamber programming
- Fast processing: 1 sec. cycle time (without handling)
- Fast resetting to another connector type
- User-independent contact force defined by spring-loaded IDC terminal
- Alternative to screw or spring cage
- Connections resistant to harsh environment: from -40 to + 125 C° temperature range, high humidity, mechanical stresses
- For broad field of applications: domestic appliances, automotive safety systems, computers, ATMs, irrigation equipment, motors, pumps, security systems, solar energy, solid-state lighting and telecom gear
- No preliminary operations: NO stripping of insulation / NO splicing required for flexible cables



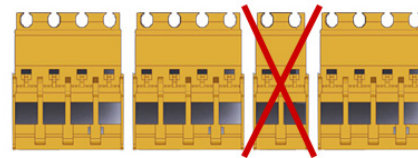
CONNECTORS FEEDING

STEP 1

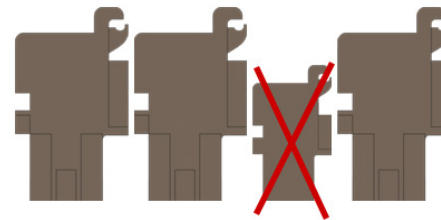


A. AUTOMATIC FEEDING

B. CONNECTORS DISPENSERS



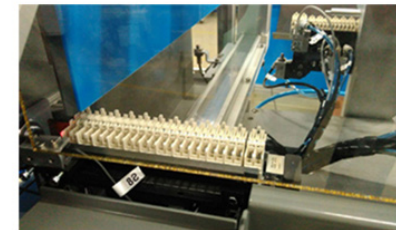
- ONE DISPENSER CONTAINS CONNECTORS WITH A SAME NUMBER OF CONTACTS



- UP TO 4 DISPENSERS WITH THE SAME CONNECTOR PROFILE

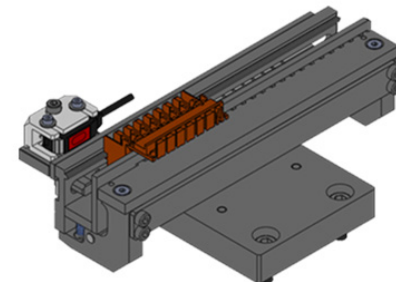
C. AUTOMATIC TRANSPORT CARRIAGE

MOVES → AND ← ALONG THE RAIL TO COLLECT CONNECTORS OF NECESSARY QUANTITY AND SIZE IN APPROPRIATE ORDER



D. MOVABLE STOP BLOCK

WITH FILLING SENSOR TO CONTROL CONNECTORS PRESENCE



CABLE FEEDING

STEP 2.1

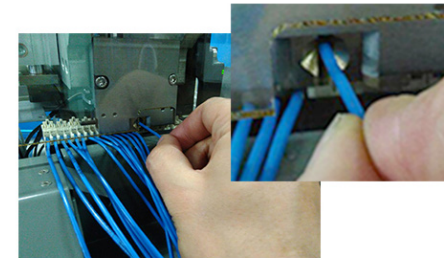
A. CABLE UNREELING & CUTTING UNIT

– AUTOMATIC CUTTING TO REQUIRED LENGTH IN A PREDETERMINED ORDER
– JUST ONE CABLE REEL INSTEAD OF SEVERAL WIRE HARNESSSES OF DIFFERENT COLORS

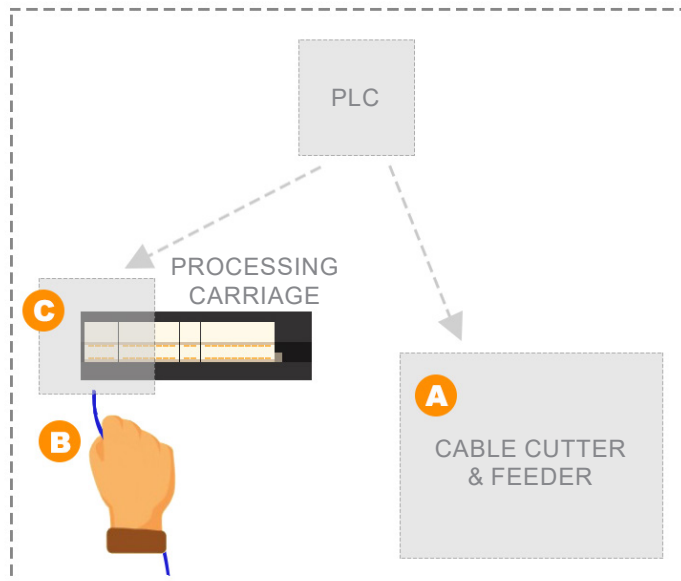
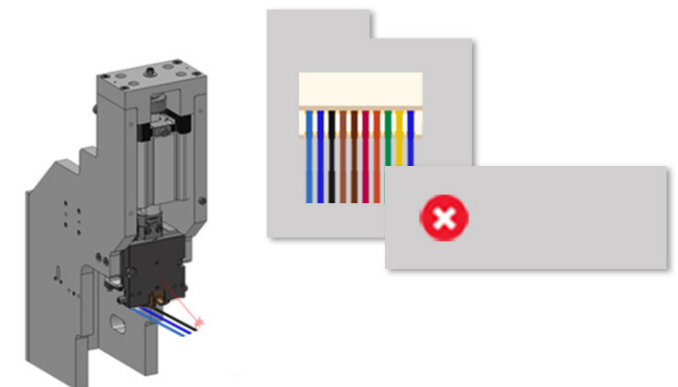


B. ONE INSERT SLOT

OPERATOR INSERTS WIRES ONE BY ONE INTO THE SAME INSERT SLOT

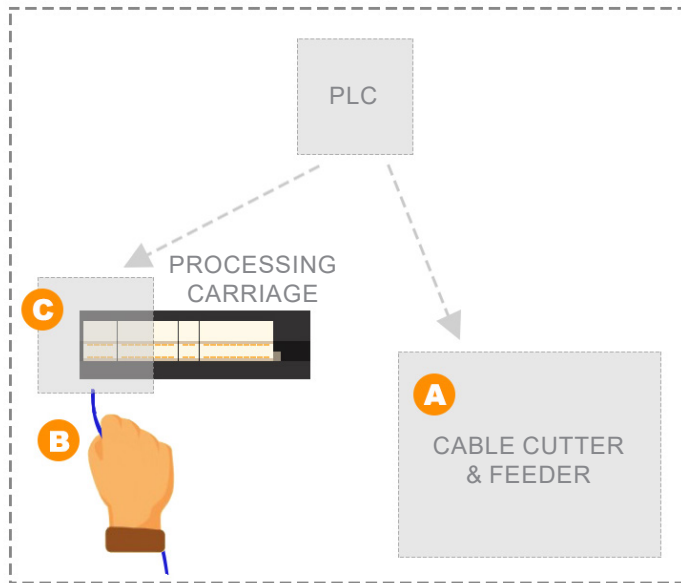


C. WIRE COLOR DETECTION



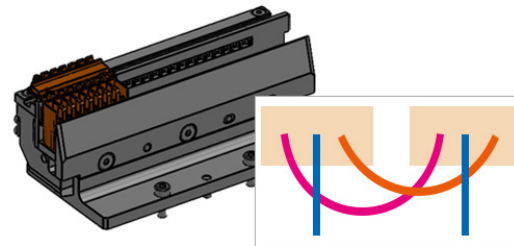
CRIMPING

STEP 2.2



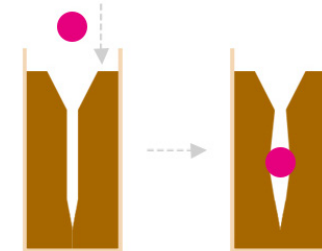
A. PROCESSING CARRIAGE

AUTOMATICALLY MOVES ALONG THE RAIL → AND ← ACCORDING TO THE APPROPRIATE ORDER OF WIRE INSERTION.

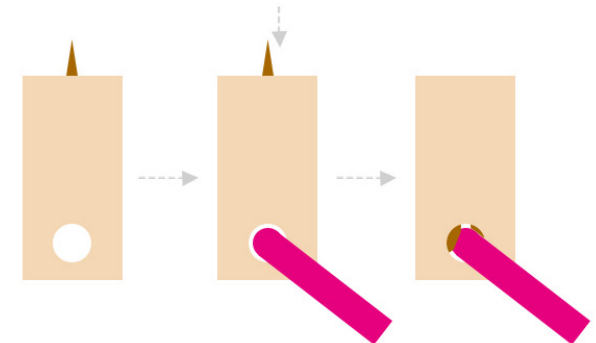


B. TOP / SIDE FEED

TOP WIRE TO TERMINAL FEED (SERIES SM IDC TF) – WIRE IS PRESSED DOWN BETWEEN THE CONTACTS

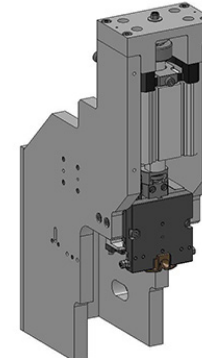


SIDE WIRE TO TERMINAL FEED (SERIES SM IDC SF) – WIRE IS INSERTED INTO THE HOLE, CONTACT IS PRESSED DOWN ONTO THE WIRE



C. INSERTION DEPTH CONTROL

WIRE IS DETECTED IN AN INSERT SLOT → PRESS WITH INSERTION DEPTH CONTROL INSERTS IT INTO THE CONNECTOR.

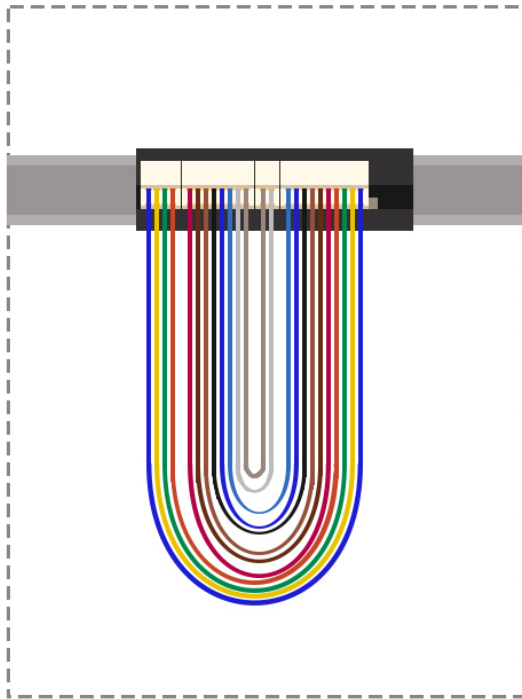


QUALITY CONTROL

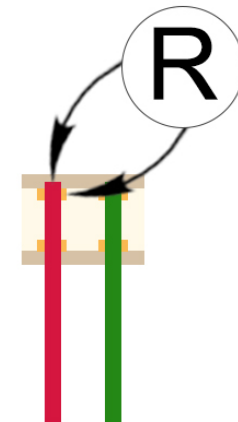
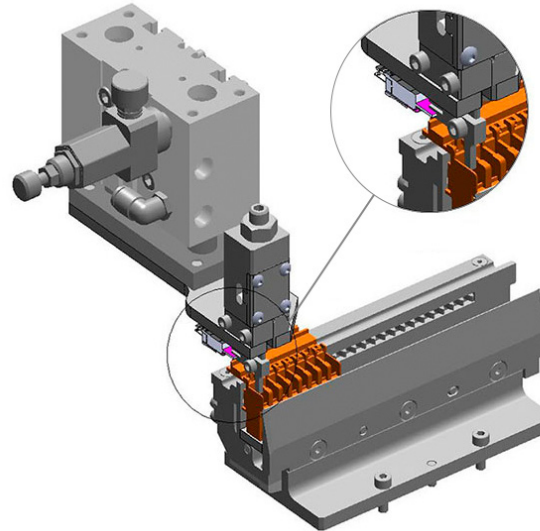
STEP 3

A. COMPONENTS POSITION CONTROL

WIRE POSITION CONTROL FOR TOP FEED /
TERMINAL POSITION CONTROL FOR SIDE
FEED



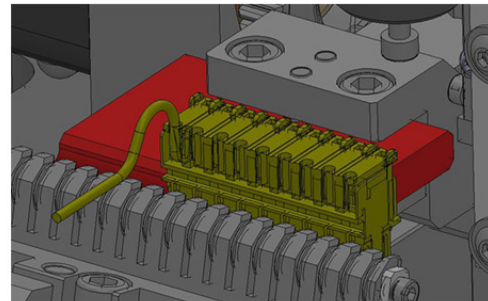
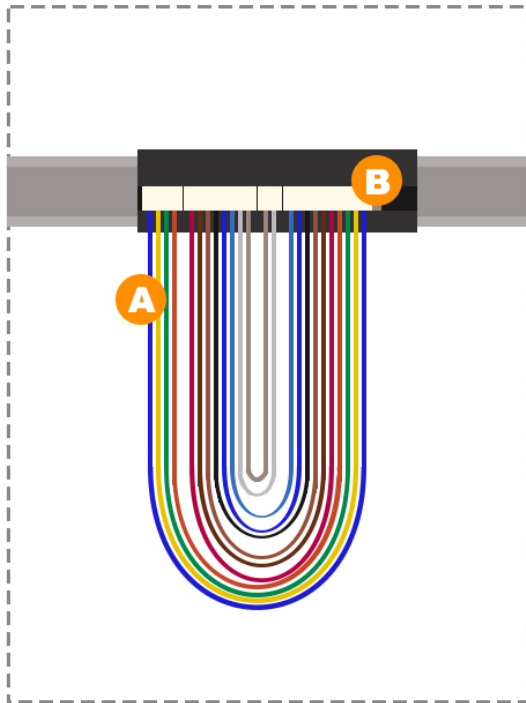
B. ELECTRICAL TESTING STATION



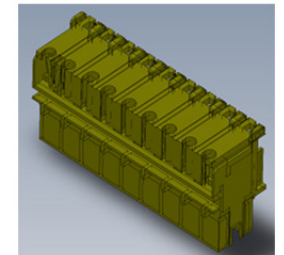
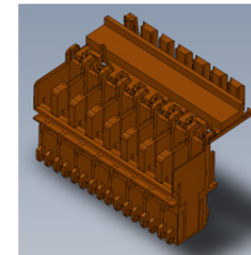
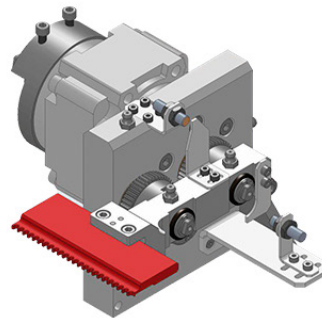
COVER CLOSING

STEP 4

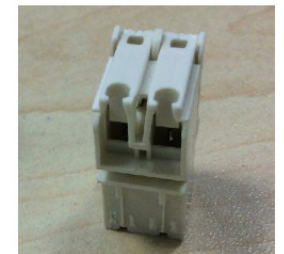
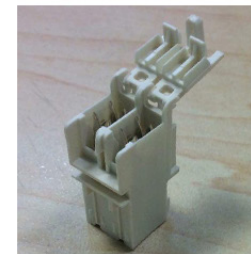
A. WIRE BENDING



B. COVER CLOSING



OPEN & CLOSED
CONNECTORS



SM IDC

TECHNICAL DATA

| | SM IDC |
|---------------------|--|
| Drive | Pneumatic |
| Cycle time | 1 sec. (without handling) |
| Operating voltage | 230 V / 50 Hz |
| Control voltage | 240 DC |
| Connected load | 0,6 kW |
| Pneumatics | min. 6,5 bar |
| Air consumption | 150 L/min |
| Dimensions (WxDxH) | 1410 x 751 x 1363 mm |
| Weight (standalone) | 205,3 kg (RAST 2.5, RAST 2.5 Power) 223,5 kg (RAST 5.0) |



WIRE HARNESSES CONFIGURATIONS

BASIC

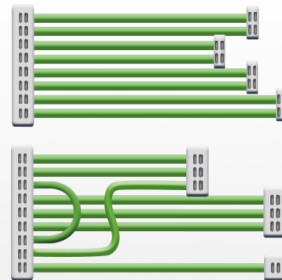


Same connectors on opposite sides (RAST 2.5 or 5.0)

One connector on one harness side

Semi-automatic IDC machine standard

COMPLEX

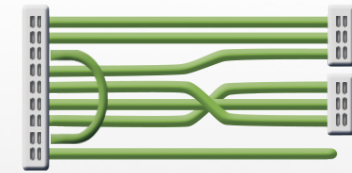


Same connectors on opposite sides (RAST 2.5 or 5.0)

Several connectors on one harness side

Semi-automatic IDC machine upgraded

COMPLEX AUTOMATIC



Different connectors on opposite sides (RAST 2.5 or 5.0)

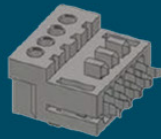
Several connectors on one harness side

Automatic IDC machine

IDC CONNECTORS

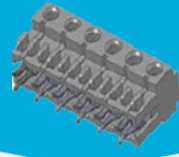
FEATURES

RAST 2.5



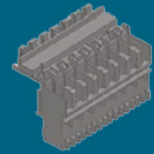
| | |
|----------------------------|--------------------|
| Cable cross section | 0.35 - 1.00 sq.mm. |
| Signal & low load currents | up to 4A |
| Contact pitch | 2.50 mm |
| Direct mating | ✓ |
| Indirect mating | ✓ |
| Cable-to-board connection | ✓ |
| Cable-to-cable connection | ✓ |

RAST 2.5 POWER

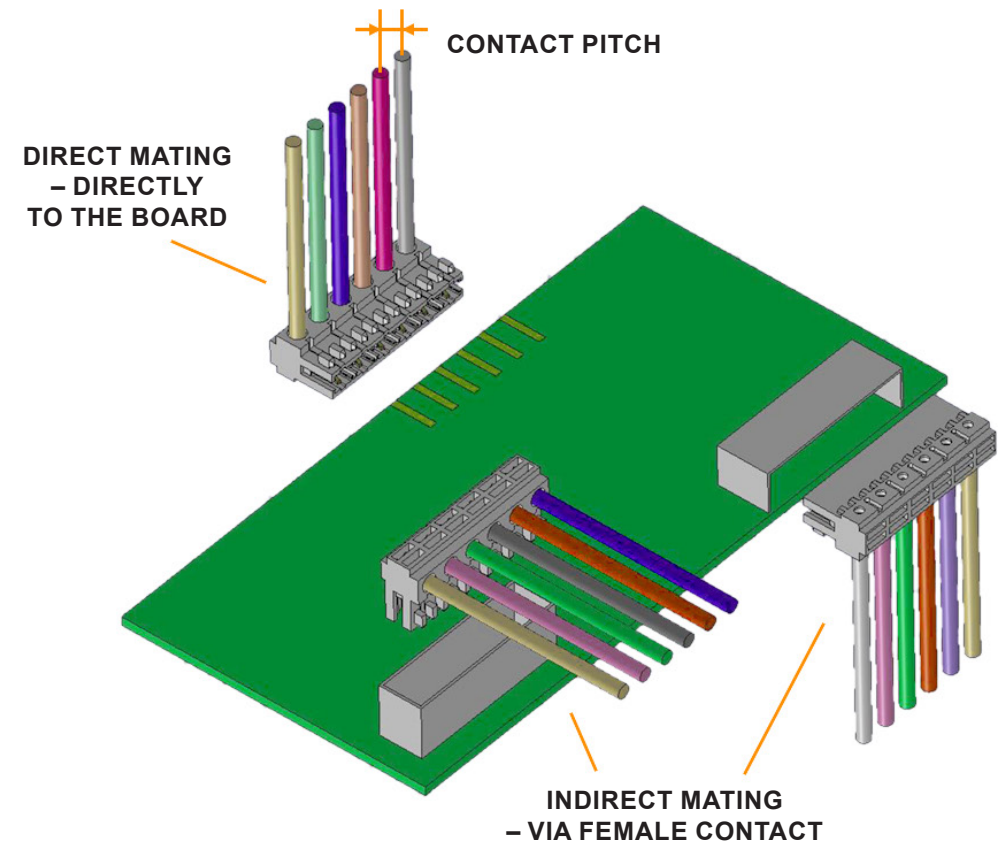


| | |
|----------------------------|--------------------|
| Cable cross section | 0.35 - 1.00 sq.mm. |
| Signal & low load currents | up to 6A |
| Contact pitch | 5.00 mm |
| Direct mating | ✓ |
| Indirect mating | ✓ |
| Cable-to-board connection | ✓ |
| Cable-to-cable connection | ✓ |

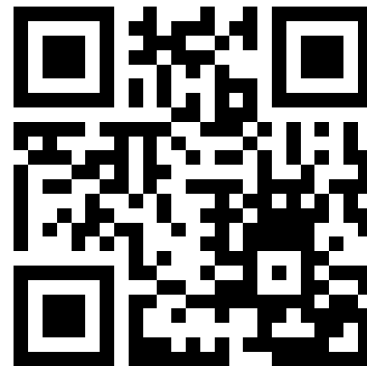
RAST 5.0



| | |
|----------------------------|--------------------|
| Cable cross section | 0.50 - 1.55 sq.mm. |
| Signal & low load currents | up to 10A |
| Contact pitch | 5.00 mm |
| Direct mating | ✓ |
| Indirect mating | ✓ |
| Cable-to-board connection | ✓ |
| Cable-to-cable connection | ✓ |



Sm IDC on YouTube



SEE MORE
SMCONTACT.EU



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