

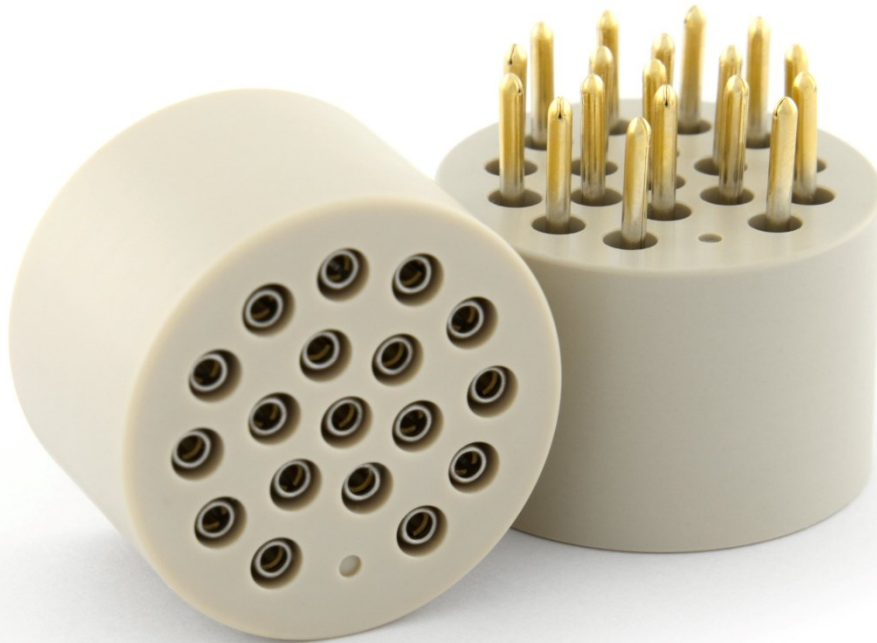
# MLF18VCF and MLF18VCM

In-Vacuum Bakeable Connectors, 18-Way

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## USER MANUAL

ISSUE 20220720



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# 1. Introduction

This connector kit is intended for use with AML vacuum-compatible stepper motors. The connector is bakeable to 250°C. Its electrical ratings at 20°C are, 200 V RMS, 300 v DC, 5 A per connection, 15 A total, in air or vacuum. The voltage rating between 10 millibar and  $1 \times 10^{-2}$  millibar is reduced to 50 V peak.

The MLF18VCM male connector and MLF18VCF female connector will mate directly.

The MLF18VCF female connector will also mate with the vacuum side of MLF18F, 18 way NW35CF feedthrough.

This connector may have been supplied pre-wired to an AML cable. In such cases these instructions are supplied for reference purposes only.

The convention for wiring AML motors through these connectors is shown at the end of these instructions.

## 1.1. Parts Supplied

The parts comprising this connector kit are packed in sealed polythene bags which allow the contents to be viewed. Check the contents against the list below, using the assembly diagrams as a guide to identification. Do not open the bags until you need the parts.

| Part | Quantity | AML Part Number                 | Description                             |
|------|----------|---------------------------------|---|
| A    | 20       | EP RTPIN20 <b>or</b> EP RTSKT24 | Pin/Socket contact, crimp, 2 part gold. |
| B    | 1        | MMLF18VCM <b>or</b> MMLF18VCF   | Connector housing.                      |

## 1.2. Tools and Materials Required

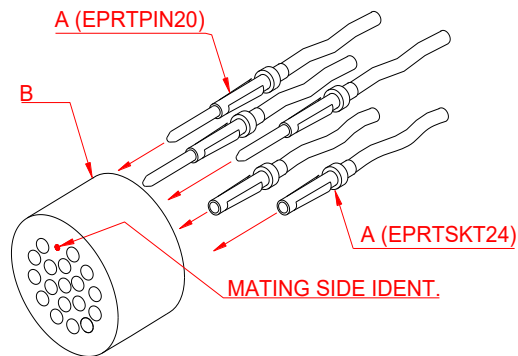
- Side cutters
- Wire strippers
- Crimp tool RS Components model 450-4411, 210-5012 or equivalent.
- Pin extractor RS Components model 466-876 or equivalent.

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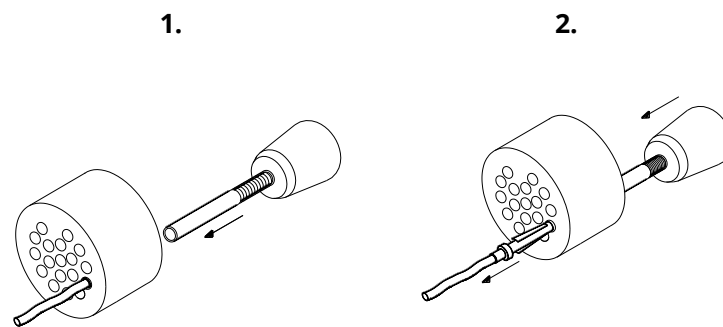
## 2. Assembly Procedure

### 2.1. Assembly

- 1.1 Strip the individual wires 4mm.
- 1.2 Crimp the pins / sockets **A** to the wires.
- 1.3 Orientate the connector housing **B** by noting the position of the ident. mark. Insert the pins / sockets into the connector housing. The pins extend 8mm beyond the mating side and the sockets are slightly below the mating side. There is a tactile detent when the pin/socket is fully inserted.



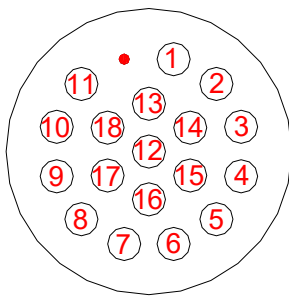
### 2.2. Pin Extraction



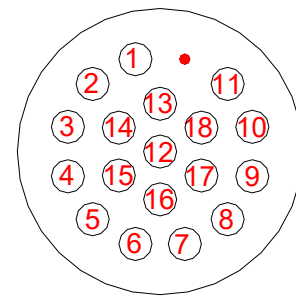
### 3. Standard Wiring of Motors to Feedthroughs and Connectors

All AML stepper motors and MLF18 connectors are wired consistently, according to the table below. The diagram shows the pin connector locations viewed from the mating face of the MLF18VCM and VCF connectors.

| Pin | Motor 1  | Pin | Motor 2  | Pin | Motor 3  |
|-----|----------|-----|----------|-----|----------|
| 1   | $\Phi_A$ | 7   | $\Phi_A$ | 13  | $\Phi_A$ |
| 2   | $\Phi_B$ | 8   | $\Phi_B$ | 14  | $\Phi_B$ |
| 3   | $\Phi_A$ | 9   | $\Phi_A$ | 15  | $\Phi_A$ |
| 4   | $\Phi_B$ | 10  | $\Phi_B$ | 16  | $\Phi_B$ |
| 5   | P        | 11  | P        | 17  | P        |
| 6   | N        | 12  | N        | 18  | N        |



MLF18VCM



MLF18VCF