INTEGRA Metering AG	INTEGRA Metering SA
Ringstrasse 75 CH-4106 Therwil	Rue de l'Oyonne 1 CH-1800 Vevey
+41 61 725 11 22 info@integra-metering.com www.integra-metering.ch	+41 21 926 77 77 info.vevey@integra-metering.com www.integra-metering.ch

M-Bus Installation Project Guidelines

Contents

1. Electrician's duties

- Installation of empty tubes or lines from the data center to junction boxes or measuring devices etc.
- Insertion of cables to all measuring devices and components.
- Supply, assembly and connection of junction boxes (sealable) on all connection points.
- Assembly of the data center, 230V connection from a 10A safety cut-out (sealable).

Caution: Do not turn on the power unit and power supply unit during assembly!

2. Wiring rules

- Unshielded two-wire cabling
- The M-Bus lines and the 230 V lines (high current) must be strictly separated
- Bus lines should be as short as possible
- The regulations of the Swiss Association of Electricians (ASE) are valid

Name Bus: M-Bus (standard: EN 1434-3)

Network topology: backbone or star trunks, free topology meter connection

Special features: no closed or ring cable arrangement (danger of lightning strike).

The installation of the M-Bus network is carried out by means of an unshielded two-wire cable. The M-Bus lines and the high-current lines must be separated. It is recommended to use 2x2x0.8mm telephone line cables and 1x4x 1.5mm² and 2.5mm² installation type cables.

INTEGRA Metering recommends the use of the following types of cables:

Main lines M-Bus	TT 4L 1x4x1.5mm² (recommended) or 1x2x1.5mm2 Line length = max. 1,000m
Connection Line/Distributions	U72 1x4x0.8mm² unshielded (recommended) Line length = max. 50m
Longer installations, please contact INTEGRA Metering	

- Use leadable junction boxes on all connection, branch and consolidation points
- All boxes must be marked "M-Bus"

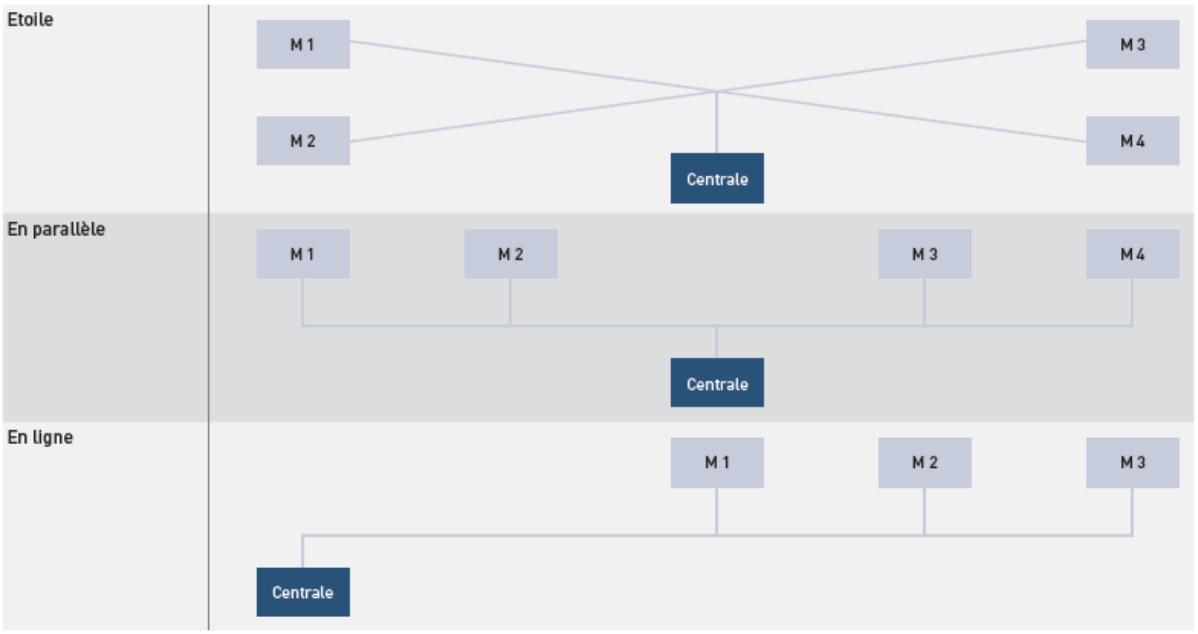
Connections/Connections (Hardware Proposal)	
Exposed junction boxes	P. E. Woertz 78x78mm
Recessed junction boxes	Standard Hardware

Cable connections (hardware proposal)
Scotchlok IDC 0.5 ... 1.5mm Common terminals for low-current conductors

3. Bus Topology

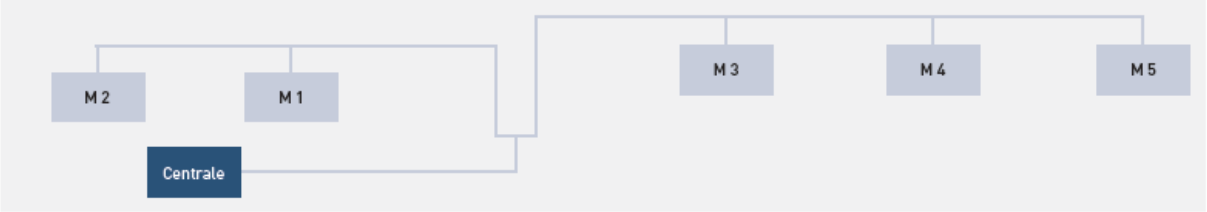
2-wire bus cabling can be done according to the following examples:

- Free topology: star, chain, or main lines with branches
- No closed or ring arrangement (danger of lightning strike)
- The meters are connected via leadable junction boxes

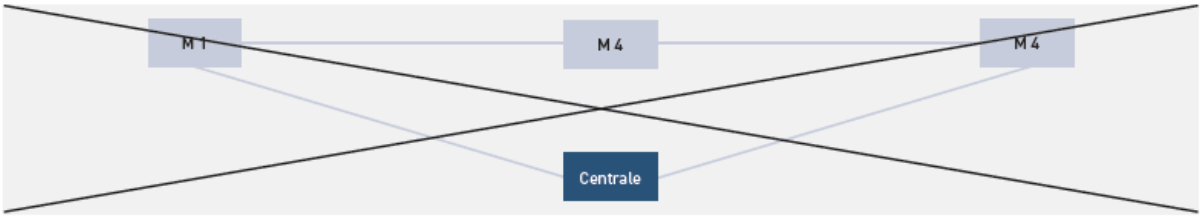


4. Combining these examples

We recommend subdividing the bus cabling into uplines and connection lines.



Please note: M-Bus loop wiring is strictly prohibited.



5. Tips to avoid voltage drops

To prevent any voltage drop, it is advisable to:

- increase the section of the main line (backbone) (it carries the strongest currents; 3 lines are available)
- Distribute the meter networking across multiple lines, which also facilitates maintenance
- to prefer star networking to chain networking (never ring).

Example: it is possible to separate a multi-family building into 3 ascending zones assigned to the left, middle and right apartments.