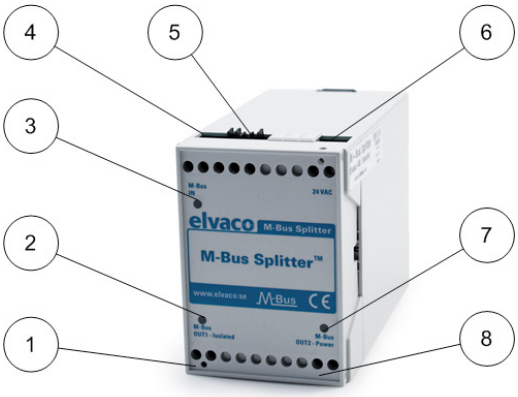
M-Bus Splitter

Share up to 4 M-Bus slaves

INTRODUCTION

The M-Bus Splitter allows two parties to have access to the same main meter. Two M-Bus masters can be connected to the meter and register readings individually.This manual provides the information needed to get started with the M-Bus Splitter. For a complete description of the product or for information in Swedish, visit the Elvaco AB website, www.elvaco.com.

OVERVIEW



1. Screw terminal M-Bus OUT1 - Isolated
2. LED M-Bus OUT1 - Isolated
3. LED M-Bus IN
4. Screw terminal M-Bus IN
5. Configuration jumpers
6. Screw terminal external power (optional)
7. LED M-Bus OUT2 - Power
8. Screw terminal M-Bus OUT2 - Power

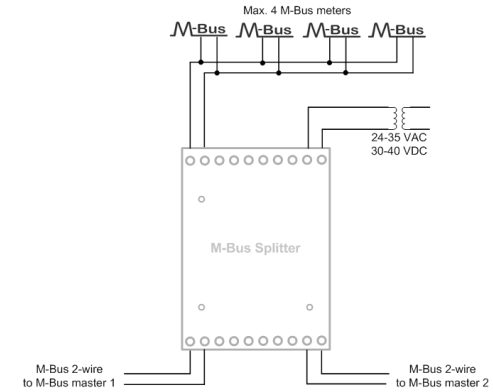
MOUNTING

M-Bus Splitter can be mounted on a DIN-rail or directly on the wall. For wall mounting, the black mounting bracket on the back of the M-Bus Splitter has to be demounted from the unit and mounted on the wall. The M-Bus Splitter will then be snapped on to the black mounting bracket.

1. 24 V power supply should be connected when more than one meter is connected or if the Splitter does not manage to operate the connected meter. It is important that the power supply is only used to power the M-Bus Splitter (and not additional devices).
2. Connect meter on the terminal marked with M-Bus IN. The meters must have unique primary addresses between 1 and 250.
3. Connect M-Bus master on the terminals marked with M-Bus OUT2 and OUT1. M-Bus OUT2 must be connected as it provides power to the Splitter.

M-BUS 2-WIRE BUS

M-Bus is a multi-drop 2-wire bus with no polarity. Use a cable of area 0.25-1.5 mm^2, e.g. a standard telephone cable (EKKX 2x2x0.5).



OPERATION

When the Splitter is powered up it takes up to 5 minutes before it is ready to use since it needs charging. During charging, all LEDs will flash four short flashes in order every three seconds.

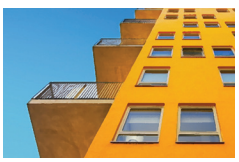
1. There are four settings to be done to adapt the Splitter to the installation. This is done by setting the jumpers in on or off mode. See Settings for more information.
2. Start the meter installation by changing the position of any jumper (off to on/on to off). Put the jumper back to its original position. See settings.
3. During scanning, the LED for M-Bus IN flashes with a short flash every second. Depending on the scanning speed the scanning time varies from 1 to 8 minutes.
4. When the scanning is completed, the M-Bus Splitter is in normal operation. See LED indications.

TROUBLESHOOTING

Make sure that:

1. All cables are connected properly, both on the M-Bus Splitter and on the M-Bus master.
2. The voltage on M-Bus IN is greater than 23 VDC. If the voltage is lower, disconnect one meter at a time to find the failing meter.
3. The voltage on M-Bus OUT2 is greater than 26 VDC. If the voltage is not within this range, check the function of the M-Bus master. Connect external 24 VAC power supply when connecting more than one meter. When low voltage is detected on M-Bus IN, all LEDs flashes four times.
4. The connected M-Bus meters all have unique primary addresses.
5. Contact the supplier if the error remains.

SETTINGS



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Speed M-Bus OUT1

Jumper 1, yellow

Mode	Description	Visual
Jumper on	2400 baud	
Jumper off	300 baud	

Scanning speed M-Bus IN

Jumper 2, blue

Mode	Description	Visual
Jumper on	2400 baud	
Jumper off	300, 2400 baud	

Readout interval M-Bus IN

Jumper 3 and 4, black

Mode	Description	Visual
Jumper off Jumper off	1 minute	
Jumper off Jumper on	5 minutes	
Jumper on Jumper off	30 minutes	
Jumper on Jumper on	12 hours	

Speed M-Bus OUT2

Jumper 5, red

Mode	Description	Visual
Jumper on	2400 baud	
Jumper off	300 baud	

LED INDICATIONS

M-Bus IN

LED indications for M-Bus IN

Mode	Description	Visual
4 short flashes every 3 seconds	Start-up/charging	
Short flash every second	Readout	
Off	No meter installed/error on the bus	
1 flash every 12 seconds	1 installed meter	
2 flashes every 12 seconds	2 installed meters	
3 flashes every 12 seconds	3 installed meters	
4 flashes every 12 seconds	4 installed meters	

M-Bus OUT 2

LED indications for M-Bus OUT 2

Mode	Description	Visual
4 short flashes every 3 seconds	Start-up/charging	
Off	Error on the bus	
1 flash every 12 seconds	Normal operation	
2 flashes every 12 seconds	Communication took place last minute	

M-Bus OUT 1

LED indications for M-Bus OUT 1

Mode	Description	Visual
4 short flashes every 3 seconds	Start-up/charging	
Off	Error on the bus	
1 flash every 12 seconds	Normal operation	
2 flashes every 12 seconds	Communication took place last minute	

TECHNICAL SPECIFICATIONS

Mechanics	
Material	Polycarbonate
Dimensions	75x55x110 mm
Weight	100 g
Mounting	DIN-rail or wall mounting
Connections and interface	
Connection	M-Bus screw terminal
M-Bus 2-wire interface - master port	
Nominal voltage	23-27 VDC
M-Bus baud rate	300, 2400 Bit/s
Max. connected meters	4*
Scanning range	0-250 (multiple slave), 254 (single slave)
Scanning interval	1 min, 5 min, 30 min or 60 min
Standards	EN 13757

*When using more than one meter, an external power supply needs to be used.

M-Bus 2-wire interface - slave ports	
Nominal voltage	21-42 VDC (M-Bus standard)
Power consumption	2T-6T (3-9 mA)
M-Bus baud rate	300, 2400 Bit/s
Standards	EN 13757
M-Bus commands	SND_NKE, REQ_UD2
External power	
Nominal voltage	24-35 VAC or 30-40 VDC
Power consumption	25 mA
User interface	
Operation indication	See LED indications
Other	

SAFETY

The warranty does not cover damage to the product caused by usage in any other way than described in this manual. Elvaco AB can not be liable for personal injury or property damage caused by usage in any other way than described in this manual.

ORDERING INFORMATION

Product	Part number	Description
M-Bus Splitter	1050013	Share up to 4 M-Bus slaves

CONTACT TECHNICAL SUPPORT

Phone: +46 300 434300
E-mail: support @elvaco.com
Online: www.elvaco.com

EU DECLARATION OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:

Elvaco AB, Kabelgatan 2T, S-43437 Kungsbacka, Sweden

Product	Year of CE-marking
M-Bus Splitter	2016

The object(s) of the declaration listed above is in conformity with the relevant Community harmonization legislation:
EMC Directive 2014/30/EU
RoHS 2011/65/EU
And are in conformity with the following harmonization standards or other normative documents:
EN55022 (Radiated emission)
EN 61000-4-6 (Immunity to HF-injection)
EN 61000-4-3 (Immunity to RF-field)
EN 61000-4-2 (Immunity to ESD)

Kungsbacka, Sweden, 2016-04-16

David Vonasek, CEO