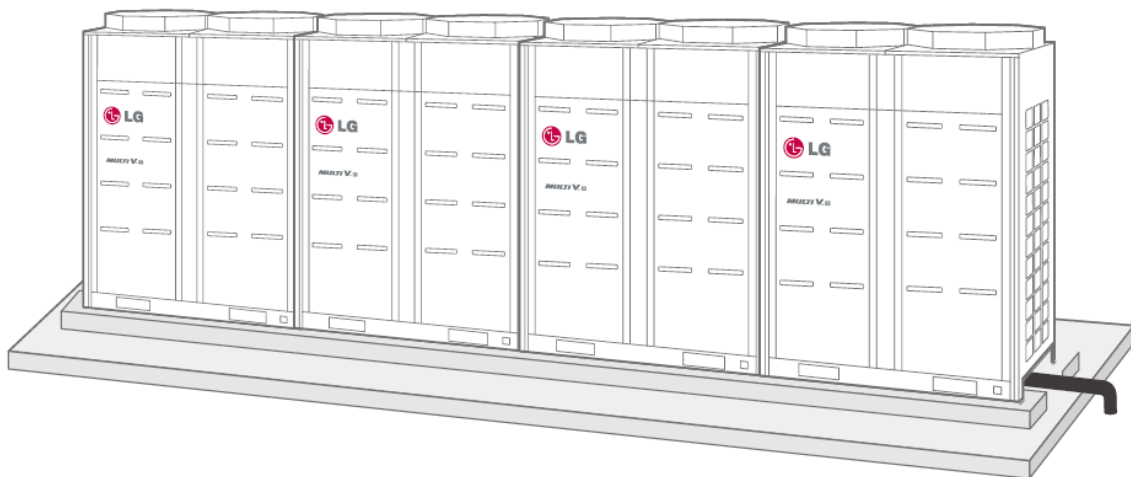


**MULTI V™**

# INSTALLATION MANUAL

Installation  
Operation



## **MOV-MV**

**OUTDOOR COMPRESSOR CONDENSING UNIT  
PERFORMANCE LIMITATION MODULE  
OPTIONAL ACCESSORIES OF THE COMMUNICATION  
MODULES KM113—MV- SERIES**

**DESIGNED FOR EXTERNAL UNITS  
LG Electronics  
model series "ARUM—LTE5, ARUN—LTE4,  
ARUN-LSS0, ARUN-GSS0"**

**Version - 2020/07/23**

## 1.1 APPLICATION OVERVIEW

Performance limitation module MOV-MV is an optional accessory to the communication modules KM113.11MV1, KM113.12MV2, KM113.21MV1 and KM113.22MV2.

Performance limitation module MOV-MV is designed for direct reduction of the output power of the external compressor condensing unit ARUM—LTE5, ARUN--LTE4, ARUN—LSS0, ARUN—GSS0.

The performance of the outdoor unit changes based on the change in the required evaporation / condensing pressure.

Under nominal conditions, the output of the compressor unit is limited in the range of 100-40 % synchronously with the power requirement (i.e. with the value of the "POWER" input - contact / analog / Modbus). When C0 / H0 power is requested, the restriction is canceled.

Example for the ARUN100LTE4 unit:

Cooling			Heat pump		
Power request	Evaporation temperature °C	Power share	Power request	Condensing temperature °C	Power share
C0	according to the standard algorithm	without limits	H0	according to the standard algorithm	without limits
C1	11	40 %	H1	31.3	40 %
C2	9.0	50 %	H2	34.5	50 %
C3	7.2	60 %	H3	37.5	60 %
C4	5.9	70 %	H4	40.4	70 %
C5	5.0	80 %	H5	43.1	80 %
C6	4.1	90 %	H6	45.6	90 %
C7	3.1	100 %	H7	48.1	100 %

Notice:

The table above is for guidance only! The evaporation and condensing temperature values are defined by the compressor unit software and are the required, calculated values. The values of the power share are indicative values.

**ATTENTION:** Do not change the power requirement too quickly. The request should not be changed for at least 30 seconds, otherwise the outdoor unit may be damaged.

### **WARNING**

In a system with several communication modules or indoor units, activating the compressor unit's power limitation function will cause a decrease in the output of the entire system (i.e. also on all other indoor units/modules).

## 1.2 CONNECTION OF THE POWER LIMITATION MODULE TO THE COMPRESSOR UNIT

**Make sure that the compressor unit is de-energized!**

**There is a risk of electric shock and damage to the device when installing the module under voltage!**

The compressor unit only accepts the module when the power supply is activated.

Address the system before connecting the performance limitation module.

Install the MOV-MV power limitation module in the outdoor compressor unit - the module plugs into a free connector for communication on the main control PCB of the outdoor unit.

Attention, the orientation of the MOV-MV module in relation to the connector on the main PCB of the outdoor unit must be observed. The connection terminals on the MOV-MV module must be on the same side as the connector lock on the main PCB of the outdoor unit.

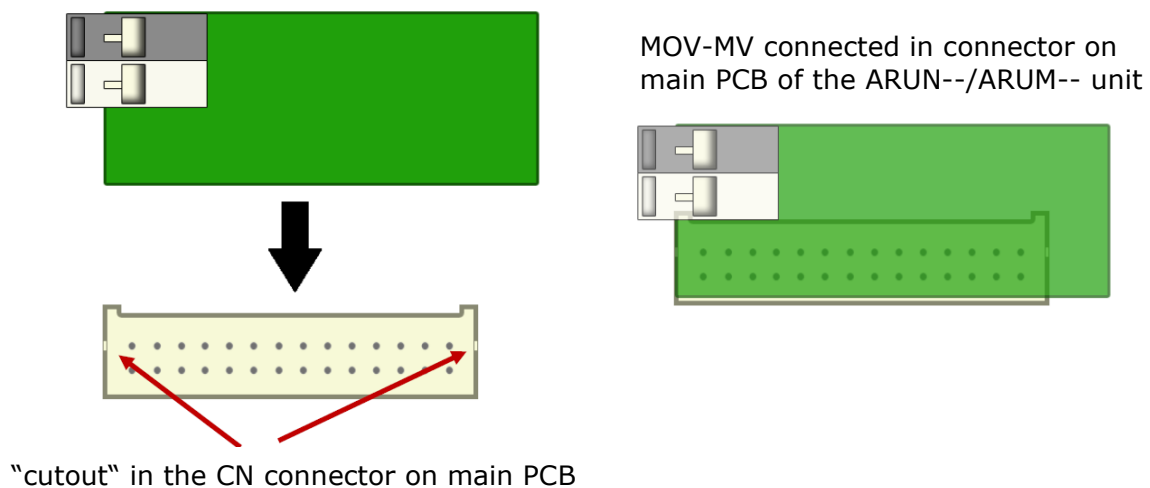
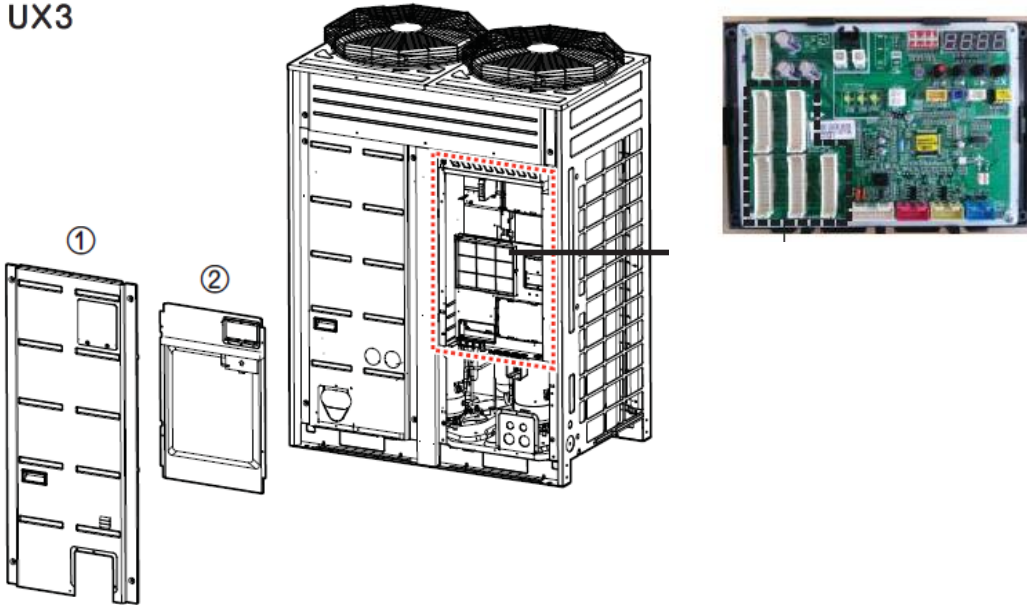


Fig. 1 CONNECTION of the MOV-MV to connector on main PCB of the ARUM-- / ARUN-- outdoor unit (orientation MOV-MV with respect to connector)

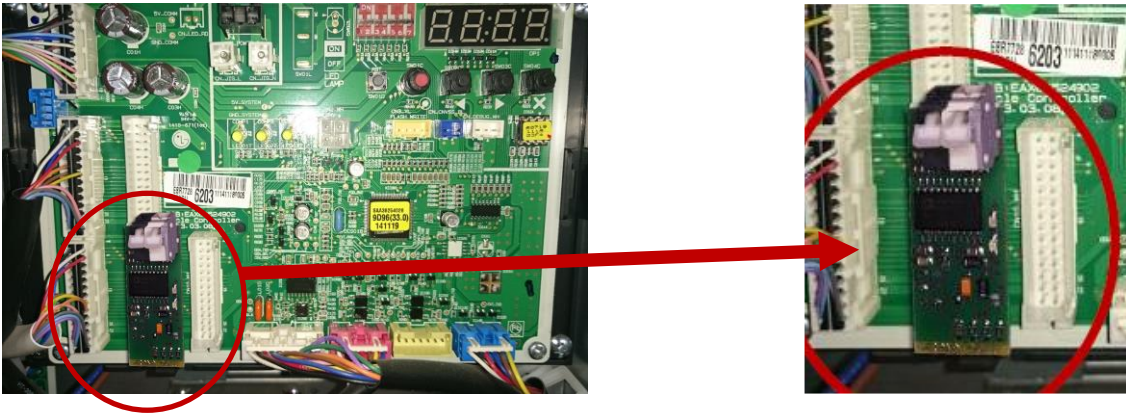
## EXAMPLE OF ARUN---LTE4 UNIT CONNECTION

Install the MOV-MV power limitation module in the outdoor compressor unit - the module is plugged into a free connector for communication on the main control PCB of the outdoor unit (e.g. for ARUN100LTE4 connectors CN6-10).

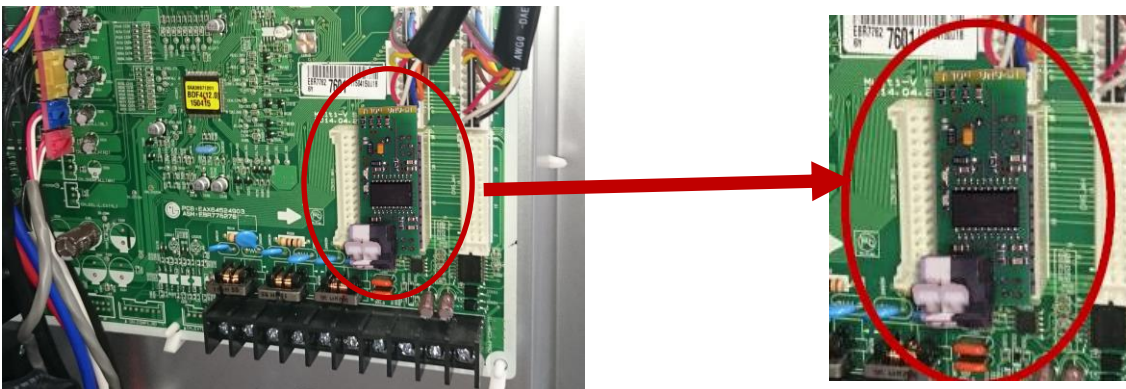
UX3



Example of installation MOV-MV to the CN9 ARUN—LTE4 connector (connecting terminals above)



Example of installation MOV-MV to the CN6 ARUN—LSS0 connector (connecting terminals below)



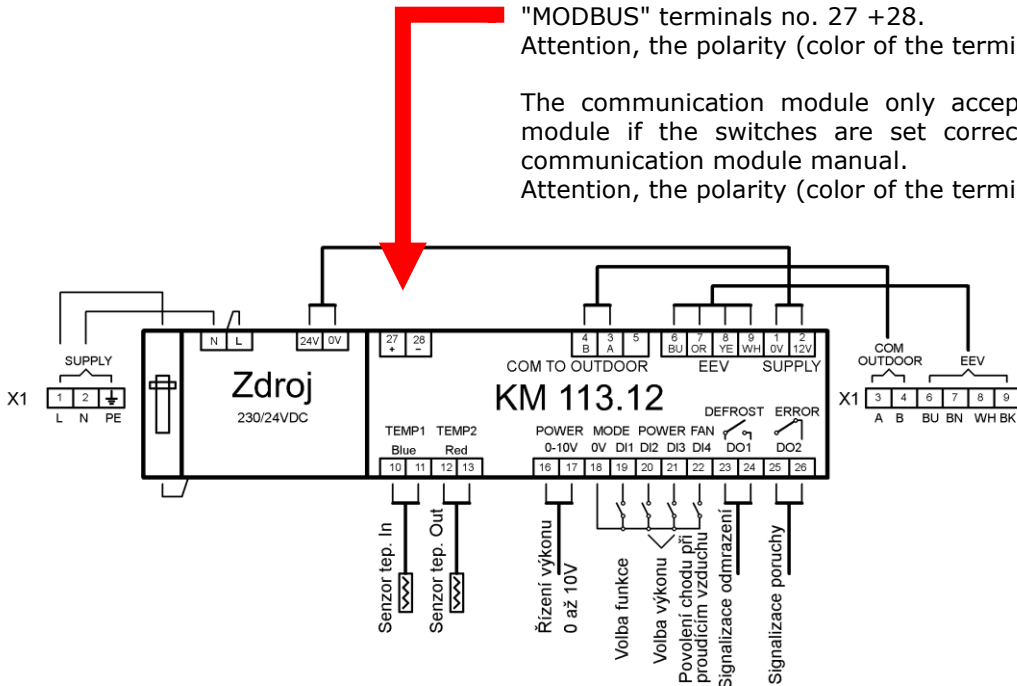
### 1.3.1 CONNECTION OF THE POWER LIMITATION MODULE TO THE KM113.12MV2 / KM113.11MV1 COMMUNICATION MODULE (1x port RS485 MODBUS/MOV)

Connect a suitable (shielded) communication cable between the terminals of the MOV-MV power limitation module and the "MODBUS" terminals no. 27 +28.

Attention, the polarity (color of the terminals) must be followed.

The communication module only accepts the power limitation module if the switches are set correctly. Settings - see the communication module manual.

Attention, the polarity (color of the terminals) must be followed.

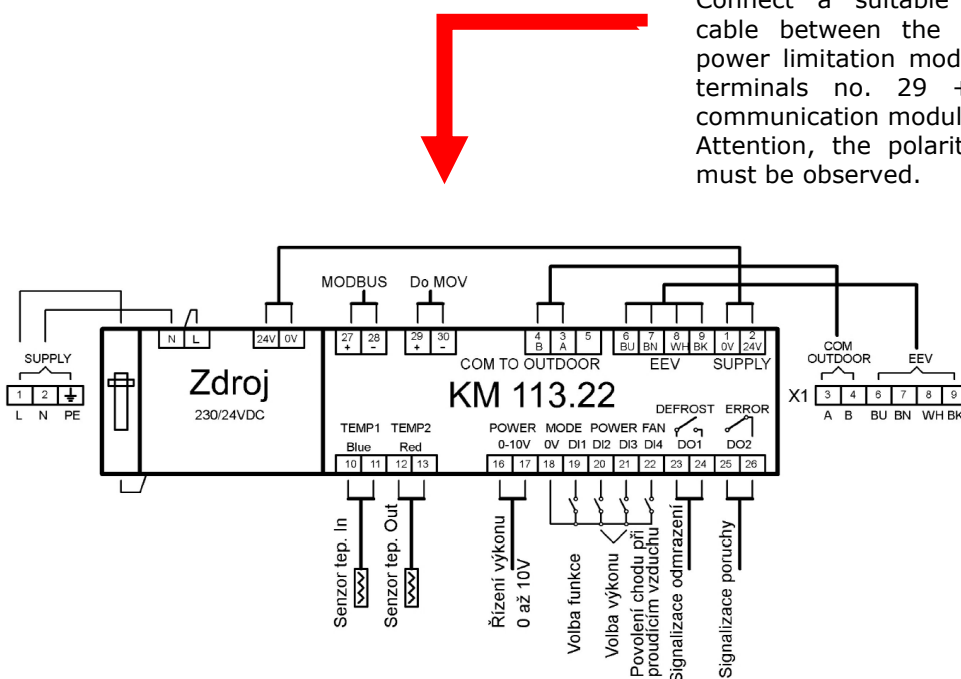


**Fig. 2 Diagram of connection the MOV-MV to the KM113.12MV2 /KM113.11MV1 module**

### 1.3.2 CONNECTION OF THE POWER LIMITATION MODULE TO THE KM113.12MV2 / KM113.11MV1 COMMUNICATION MODULE (2x port RS485 MODBUS + POWER)

Connect a suitable (shielded) communication cable between the terminals of the MOV-MV power limitation module and the "POWER COM" terminals no. 29 +30. Settings - see the communication module manual.

Attention, the polarity (color of the terminals) must be observed.



**Fig. 3 Diagram of connection the MOV-MV to the KM113.22MV2 /KM113.21MV1 module**

# Warranty card

## Equipment specifications

<i>Product</i>  <i>Optional accessories of the KM113—MV communication module</i>  Power limitation module of the LG Electronics outdoor compressor condensing unit model series “ARUM—LTE5 / ARUN—LTE4 / ARUN—LSS0 / ARUN—GSS0”	<i>Model</i>  <b>MOV-MV</b>
<i>Scope of delivery – accessories</i>  Power limitation module – PCB	<i>Serial number</i>
<i>Date of sale</i>	<i>Seller</i>
<i>Date of installation</i>	<i>Installation performed by</i>

The manufacturer provides a 24-month warranty covering the quality of the product starting on the day of sale. The warranty covers defects of the purchased product, which appear during the warranty period. In order to keep your warranty valid the installation must be performed by an authorized person and the “Warranty form” must be properly filled out. The client shall always claim the given warranty rights at his own seller.

## Service contacts

<i>Manufacturer (branch)</i>  <b>CONTES</b> , spol. s r.o. Mikuleckého 1314 147 00, Praha 4	<i>Telephone</i>  261 710 655	<i>E-mail</i>  info@contes.cz
<i>Distributor</i>  <b>RAN</b> klima S.R.O. Jílovišská 691 155 31, Praha 5	<i>Telephone</i>  244 402 140	<i>E-mail</i>  info@ran-klima.cz
<i>Seller's service</i>		