

# LMS1xx protocol handler

The LMS1xx protocol handler allows the communication to the [SICK](#) laserscanner LMS1xx to receiver the status and the distance measurements of these sensors.

## Options

- `byteorder`: The byte order for the communication (optional)
- `username`: The username for the administration of the laser scanner(optional)
- `password`: The password for the administration of the laser scanner (optional)
- `rawdata`: Should the rawdata sent by the scanner be added to the key-value object? (default: false)
- `ignoretimestamp`: Should the scanner timestamp be replaced with the current stream time? (default: false) Note: this does not change the time stamp in the rawdata-string!

## Schema

The output of the protocol handler provides the following attributes as a key-value object:

Name	Type	Description
TIMESTAMP	Long	The time of measurement in UTC (Time provided by scanner unless "ignoretimestamp" is set
VERSION	String	The version of the laser scanner
DEVICE	String	The device ID
SERIAL	String	The factory serial number
STATUS	Integer	The status of the scanner
MESSAGECOUNT	Integer	The message counter starting at the first measured value message. When the upper limit is reached, the counter starts again at 0.
SCANCOUNT	Integer	The scan counter starting with the first scan after confirmation of the measured value message. When the upper limit is reached, the counter starts again at 0.
POWERUPDURATION	Long	The time since the scanner was switched on.
TRANSMISSIONDURATION	Long	The time since the transfer of the measured values
INPUTSTATUS	Boolean	The state of the digital inputs
OUTPUTSTATUS	Boolean	The state of the digital outputs
SCANNINGFREQUENCY	Long	The scanning frequency
MEASUREMENTFREQUENCY	Long	The frequency between two separate measurements
POSITION	Matrix	The position
POSITIONROTATIONTYPE	Integer	The position rotation type
DISTANCE8BIT	Matrix	The measured distance values (8bit)
REMISSION8BIT	Vector	The measured remission (8bit)
DISTANCE8BIT2	Matrix	The measured distance values (8bit)
REMISSION8BIT2	Vector	The measured remission (8bit)
DISTANCE16BIT	Matrix	The measured distance values (16bit)
REMISSION16BIT	Vector	The measured remission (16bit)
DISTANCE16BIT2	Matrix	The measured distance values (16bit)
REMISSION16BIT2	Vector	The measured remission (16bit)
RAWDATA	String	The original raw data sent by the scanner (enabled by the "rawdata" option)

## Example

To access the different attribute values the [KeyValueToTuple](#) operator can be used to transform the required attributes into a relational tuple.

## PQL

### LMS1xx Protocol Handler

```
input = ACCESS({source='lms1',
                wrapper='GenericPush',
                transport='TCPClient',
                protocol='LMS1xx',
                dataHandler='KeyValueObject',
                options=[['host','192.168.1.20'],['port','2111']],
})

out = KEYVALUETOTUPLE({
    schema=[['DISTANCE16BIT', 'Matrix']],
    type='Scan',
    keepinput='false'
},
input
)
```