



# SIG60 Migration to SIG100

The SIG100 is an advanced generation of widely used SIG60 devices. Both devices use a unique multiplex digital signaling technology that overcomes the powerline noisy environment at bitrates up to 115.2Kbit/s.

The new SIG100 devices are back-compatible with the SIG60 communication-wise, allowing a mixed network of both devices to communicate transparently with each other using one of the selected SIG60 carrier frequencies.

Migration from SIG60 to SIG100 does not require any host interface changes (software layer) aside from updating the internal register configuration of the SIG100 (*REG\_0 and REG\_2*) to be with the same settings of the SIG60's bitrate and carrier frequency selection.

The SIG100 devices have improved features with enhanced communication performance, allowing users to share the same powerline with multiple data networks, each using a different carrier frequency. The carrier selection has increased to up to 251 carriers between 5MHz and 30MHz while using a **fixed single** external 10.7MHz (ceramic/discrete) filter. In addition, the power consumption during sleep mode is much improved with a smaller PCB footprint (package QFN32 5x5 mm).

Table 1 compares the SIG100 and SIG60 main features.

**Table 1 – SIG100 Vs SIG60 Comparison**

Device	SIG100	SIG60
Topology	Master-Slave Designed for DC-LIN ISO 17987-8	Master-Slave
Host Interface	UART/LIN	UART/LIN
Max. bitrate	115.2kbit/s	115.2kbit/s
Carrier Frequency in-band [MHz]	5MHz to 30MHz, 100kHz spacing selection.	4.5, 5.5, 6, 6.5, 10.5, 13.
Carrier Freq. BW	+/-150kHz	+/-150kHz
Tx level	1Vpp-2Vpp (configurable)	1Vpp
Rx level	2Vpp-5mVpp	1Vpp-10mVpp
Latency	2.5 bit	4.5 bit
Current-consumption during sleep	~100uA	~300uA
External Xtal	16MHz (SMD smaller packages)	4MHz
External Ceramic Filter	<b>Single</b> 10.7MHz (ceramic/discrete).	4.5/ 5.5/ 6/ 6.5/10.5/ 13.
Package	QFN32 5x5mm	QFN28 6x6mm

Preliminary, Data may be changed without notice -Proprietary information of Yamar Electronics Ltd.

## Backward compatibility with SIG60

The SIG100 can communicate transparently with the SIG60 device/s at the same carrier frequency settings as the SIG60 (5.5MHz/6MHz/6.5MHz/10.5MHz/13MHz).

To enable backward compatibility of the SIG100 devices with SIG60 devices, a WRITE-REG command must be performed as follows:

1 <sup>st</sup> Byte	2 <sup>nd</sup> Byte	3 <sup>rd</sup> Byte
	Register address	Data to write
0xF5	0x84	0x17

For more details please refer to:

[SIG100 Datasheet](#)

[SIG100 PCB reference design](#)