CONTROL AND MODBUS COMMUNICATION
APPENDIX TO THE LS G100 MANUAL ITEMS AS FOLLOW:

THE FOLLOWING MANUAL ASSUMES GOOD KNOWLEDGE OF TECHNICAL DOCUMENTATION INCLUDED WITH THE AIR HANDLING UNIT (AHU).
THIS MANUAL CONSIDERS ONLY THE CONTROL AND COMMUNICATION CIRCUITS. THE INSTALLATION OF THE FREQUENCY CONVERTER AND INSTALLATION OF MAINS AND MOTOR CABLES SHOULD BE DONE ACCORDING TO THE LS G100 MANUAL.

1. FOR ALL CONFIGURATIONS SET THE COMMON PARAMETER LIST

Parameter	Code	Value	Comments
Ramp up time	ACC	45	Recommended 45 s.
Ramp down time	dEC	45	Recommended 45 s.
Maximum frequency	dr-20	100	-
Rated frequency	dr-18	*	-
U/f ratio	Ad-01	1	Square characteristic
Overload protecion	Pr-40	2	Active
Number of motor poles	bA-11	*	2-12
Rated slip	bA-12	**	-
Rated current	bA-13	*	-
Idle run current	bA-14	**	-
P5 input function	IN-69	4	Limit switch

* - as per motor data
** - parameters to be calculated:

rated slip = (1 – number of motor poles * rated speed / 6000) * 50 Hz
idle run current = 0,3 * rated current

2. CONFIGURATIONS WITHOUT VTS CONTROLS

2.1 **Local control using integrated control panel**

Set additional parameters:

Parameter	Code	Value	Comments
Start / stop source	drv	0	Keypad
Frequency source	Frq	0	Potentiometer

Use the RUN and STOP/RST buttons to control the drive
Use buttons / potentiometer to set frequency

2.2 Remote control with three speeds

Set additional parameters:

Parameter	Code	Value	Comments
Start / stop source	drv	1	Programmable inputs
Frequency source	Frq	4	Constant speeds
Constant speed 1	St1	*	0-100 Hz
Constant speed 1	St2	*	0-100 Hz
Constant speed 1	St3	*	0-100 Hz

* - as per user preferences

Use P1/P3/P4/P5 inputs to set desired drive function (1=on,0=off)

0000 = STOP
1100 = START, 1ST SPEED
1110 = START, 2ND SPEED
1111 = START, 3RD SPEED

3. EXHAUST UNIT WITH VTS CONTROL SYSTEM

Set additional parameters:

Parameter	Code	Value	Comments
Start / stop source	drv	1	Programmable inputs
Frequency source	Frq	5	Constant speeds
Constant speed 1	St1	*	0-100 Hz
Constant speed 1	St2	*	0-100 Hz
Constant speed 1	St3	*	0-100 Hz

* - as per user preferences

Use P1/P3/P4/P5 inputs to set desired drive function (1=on,0=off)

0000 = STOP
1100 = START, 1ST SPEED
1110 = START, 2ND SPEED
1111 = START, 3RD SPEED

4. AHU WITH VTS CONTROLS TYPE uPC3

NOTE! To allow control of the G100 frequency drivers, set VFD type to G100 in uPC3 settings (HMI Advanced mask I03).

Set additional parameters:

Parameter	Code	Value	Comments
Start / stop source	drv	3	Modbus RS-485
Frequency source	Frq	6	Modbus RS-485
Address	CM-01	2	Supply 1
		3	Exhaust 1
		5	Supply 2/ redundant
		7	Supply 3
		9	Supply 4
		6	Exhaust 2 / redundant
		8	Exhaust 3
		10	Exhaust 4
Comm. protocol	CM-02	0	Modbus RS-485
Comm. speed	CM-03	3	9600 bps
Comm. parameters	CM-04	0	8N1

NOTE! To restore G100 to default settings set dr-93 = 1 and switch off the power supply.