

LMX200

MULTI CHANNEL CONTROLLER



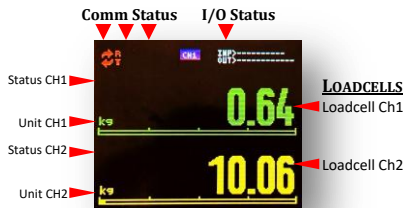
rev 260120 v1.0.0

MAIN SCREEN AND KEYS

LMX-200 devices are Din-Rail Type smart multi-channel controllers, thanks to their tiny dimensions, they are designed to adapt to the industrial environment in many weight and force measurement systems.

KEY	MAIN SCREEN	ON MENU
	Zero	Exit
	Change Channel	Up
	Tare	Down/ Right
	Menu Enter	OK / Accept

Entering the menu occurs via pressing key



CALIBRATION



Calibration via device menu and keys:

1- Select desired loadcell channel. Unload the sensor platform. Choose "Load Calibration" and go on with key. After "ZERO" message press key to set zero while platform empty
2-Load the load sensor and check counts value on screen is increased. After load stable, press key to enter load value and finalize the calibration by key.



Using Remote Communication via Modbus Commands:

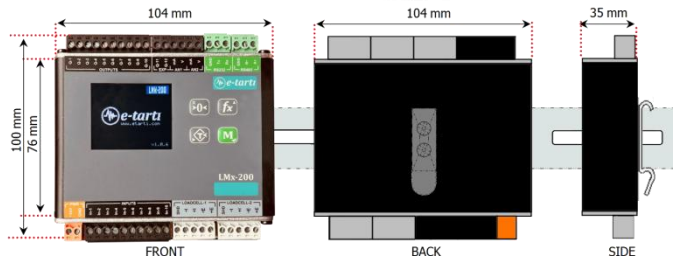
Zeroing channels: Write 1122-2122 to address 40000 (Address 0) according to which channel is zeroed
Calibrating Channels: Put the weight on to platform and write the actual Load value to the address 40001 (1). Finally write 1108-2108 command to address 40000 (0) according to target channel.

Calibration video can be found on this link www.youtube.com/e-tarti

TECHNICAL SPECIFICATIONS

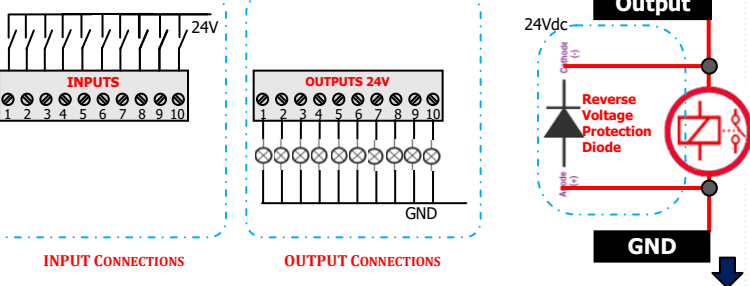
SCREEN	1.8" TFT display, 4 Keys
A/D CONVERTER	
Resolution - Speed	2channel, 24bits / 16.000.000 - 1280 samples/second
Division	0.13uV/Division
Analog Measuring Range	3.9mV/V - 250mV/V
Loadcell	350-1000 Ohm (Max. 16 Loadcells) - Excitation Voltage 3.3Vdc
INPUTS/OUTPUTS	
Standard	12pcs 24V Digital Outputs, 10 Digital Inputs
Optional	4/20mA, 0-5A, PT100-PT1000 reading Inputs
COMMUNICATION	
	1 pcs RS232, 1pcs RS485 serial output. [1200-115200bps] Modbus RTU PROFINET and ModbusTCP optional
ENVIRONMENT	
Supply / Power	24Vdc (+/- % 10) / 5W maximum (Optional 6-36Vdc, 24Vac)
Case / Dimensions / IP	Din-Rail Type Metal Case/ 104x100x35mm / IP54
Temp. Range	-20/70°C

DIMENSIONS

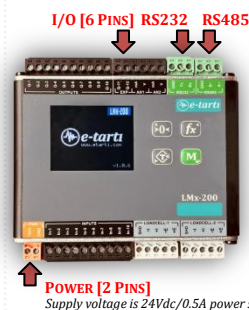


I/O SCHEME

Digital Outputs are FET type 24V outputs. Use reverse protection diodes!!



POWER & COMMUNICATION CONNECTIONS



POWER [2 PINS]
Supply voltage is 24Vdc/0.5A power source is suitable.

CONNECTIONS I/O 6 PINS

Q11 --> +24V FET Output
Q12 --> +24V FET Output
mA --> 4/20mA Current Output CH1
V --> 0/10mA Voltage Output CH1
mA --> 4/20mA Current Output CH2
V --> 0/10mA Voltage Output CH2

CONNECTIONS RS232

GND --> GND for RS232
Rx, Tx --> Rx/Tx of the device

CONNECTIONS RS485

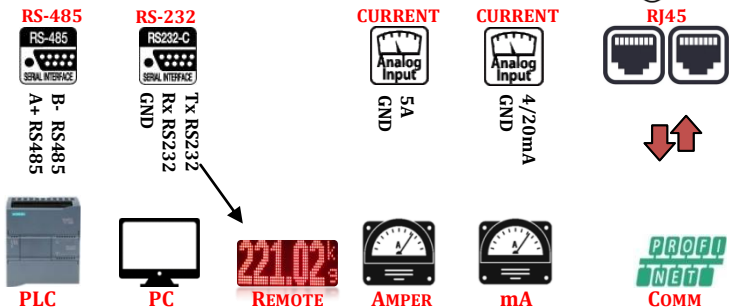
A+ --> RS485 A+ Line
B- --> RS485 B- Line

CONNECTIONS POWER

+24V --> +24Vdc Power Supply
GND --> GND Power Supply

EN

COMMUNICATION & ANALOG INPUTS CONNECTIONS



DIGITAL INPUTS & OUTPUTS



OUTPUTS [10 PINS]

INPUTS [10 PINS]

CONNECTIONS OUTPUTS 10 PINS

OUT 1-10 --> +24V Digital Outputs for relays

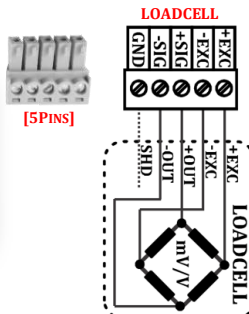
CONNECTIONS INPUTS 10 PINS

In 1-10 --> +24V Digital/Analog Signal Inputs

LOADCELL CONNECTIONS



CH1 CH2



CONNECTION COLORS

RED --> +EXC
BLACK --> -EXC
GREEN --> +SIGNAL
WHITE --> -SIGNAL

Note: Max 16 Loadcells
*Up to 48 Loadcells optionally

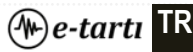
MODBUS ADDRESS

R/W	Adr	Data	Description
RW	0	Command	Command Register
RW	1	Reg-A	Extension for command
RW	2	Reg-B	Extension for command
RW	3-4	Status A-B	Devices Status information bits, please refer technical manual
RO	5-9	LC Channels NET	Each values 16bits signed, from Channel 1 to 5 NET value
RO	10-19	LC Channels NET	Each values 32bits signed, from Channel 1 to 5 NET value
RW	20-21	In1-2 5A/Volt	Shown as 5000 for 5A Input (5000mA @ 1mA resolution) on Amper Input Models default Shown as 2400 for 24V (24.00V @10mV resolution) on Voltage Input Models
RW	22-24	In3-4-5 Volt	Shown as 2400 for 24V (24.00V @10mV resolution)
RW	25/26	In6-7 20mA inp	Shown as 2000 for 20mA Input (20.00mA @10uA resolution)
RW	27	Outputs	0-4: Current outputs, 8-12: Forced control relay data, 15: Forced control
RW	28-29	Status C-D	
RW	30-49	Relay Set/Hys	30-39 32bits signed Set, 40-44 Reverse 5x8bits, relation 5x8bits, 45-49 Hys
RW	50-59	Tare Values	Each values 32bits signed, from Channel 1 to 5 Tare values
RW	60-69	mV/V (LC Chs)	Each values 32bits signed, from Channel 1 to 5 Set values

MODBUS SPECIFIC COMMANDS

Addresses 0-1-2 are used for specific commands. See Technical Manual for more details...

Adr0	Adr1	Adr2	Açıklama
4	-	-	Reset command
x005	-	-	Zero operation (Volatile when power Off) x:Channel 1005/2005/3005/4005/5005
x006	-	-	Tare command x:Channel 1006/2006/3006/4006/5006
900x	-	-	Zero multiple ch (Volatile when power Off) x:Channel 9001/9002/9004/9008/9016 for single channel and 9003 (for ch1-2), 9005 (for ch1-3)
9	-	-	Version read cmd. Version no is read to Reg1. 107 = v1.0.7
10	-	-	Parameters updated from eeprom to RAM
88	-	-	PN Blink when Profinet, ID blink when RS comm
x108	Calib. Low	Calib. High	Calibration operation. x:Channel 1108/2108/3108/4108/5108 To calibrate ch2 100,000 value;Reg0:2108 Reg1: 34464 (low)Reg2: 1 (high) is used
x122	-	-	Calibration Zero operation is done. x:Channel 1122/2122/3122/4122/5122
1x108	Calib. Low	-	Calibration for Digital Inputs. x:Channel 11108/12108/13108/14108/15108 To calibrate ch2 1,000 value;Reg0: 12108 Reg1: 1000(low) is used
1x122	-	-	Zero operation is for Digital Inputs. x:Channel 11122/12122/13122/14122/15122
112	-	-	Keys Lock operation. (Non-Volatile operation)
113	-	-	UnLock Keys operation (Non-Volatile operation)



LMX-500 Ray Tipi Çok Kanallı kontrol cihazları, minik ebatları sayesinde bir çok ağırlık ve kuvvet ölçümü sistemlerinde endüstriyel ortama uyum sağlamak amacıyla tasarlanmışlardır.

The screenshot shows the 'HABERLEŞME' (Communication) screen. At the top, it displays 'I/O Durum' (I/O Status). Below this, there are two sections for load cell readings. The first section shows 'Status CH1' and 'Birim CH1' (Unit CH1) with a reading of '0.64'. The second section shows 'Status CH2' and 'Birim CH2' (Unit CH2) with a reading of '10.06'. Red arrows point from the text labels to the corresponding fields on the screen.



Kalibrasyon videosu için link; www.youtube.com/e-tarti

EKRAN	1.8" TFT Ekran, 4 adet tuş
A/D DÖNÜŞTÜRÜCÜ	
Çözünürlük - Hız	2kanal, 24bit / 16.000.000 - 1280 örnekleme/sn
Bölüntü	0.13uV/Bölüntü
Analog Ölçüm Bölgesi	3.9mV/V - 250mV/V
Yük Hücresi	350-1000 Ohm (Maks. 16 Loadcell) - 3.3V Besleme Gerilimi
GİRİŞ/ÇIKIŞ	
Standart	12 adet 24V Çıkışı, 10 adet Dijital Giriş
Opsiyon	0-5A akım, PT100-PT1000 sensör, 0-10V, 4/20mA Okuma Girişi
HABERLEŞME	1adet RS232, 1adet RS485 seri çıkış. [1200-115200bps] Modbus ASCII/RTU PROFINET ve ModbusTCP opsiyonel
ÇEVRE ŞARTLARI	
Besleme / Güç	24Vdc (+/- % 10) / 5W maksimum (Opsiyonel 6-36Vdc, 24Vac)
Kutu / Ebatlat / IP	Ray Tipi Metal Kutu/ 104x100x35mm / IP54
Sıcaklık Aralığı	-20/70°C

I/O [6 PINS] RS232 RS485

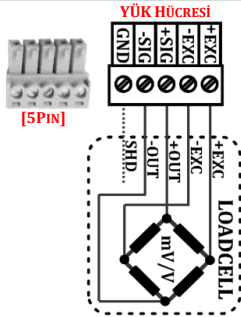


nağı uygundur.

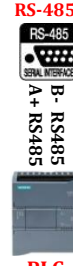
ÇIKIŞLAR [10 PIN]



In 1-10 --> +24V Digital/Analog Sinyal Girişleri



Not: Maksimum 16 YükHücr



RS-232

RS232-C

SERIAL INTERFACE

GND

Rx RS232

Illegible text at the bottom of the page.

221

AKIM
Analog Input
5A
GND

AMPER

AKIM
Analog Input
4/20mA
GND



RJ45

PROFI
NET

COMM

R/W	Adr	Data	Description
RW	0	Komut	Komut Register
RW	1	Reg-A	Komut yardıma adres
RW	2	Reg-B	Komut yardıma adres
RW	3-4	Durum A-B	Çihaz durum bitleridir. Teknik manuele bakınız
RO	5-9	NET LC (16bit)	NET değeri, Kanal 1-5, 16bit işaretli değeri
RO	10-19	NET LC (32bit)	NET değeri, Kanal 1-5, 32bit işaretli değeri
RW	20-21	In1-2 5A/Volt	5A için 5000 olarak okunur (5000mA @ 1mA resolution) Akım Okuma model (default) 24V için 2400 olarak okunur (24.00V @10mV resolution) Gerilim okuma model
RW	22-24	In3-4-5 Volt	24V için 2400 olarak okunur (24.00V @10mV resolution)
RW	25/26	In6-7 20mA Inp	20.0mA için 2000 olarak okunur (20.00mA @10uA resolution)
RW	27	Dijital Çıkış	0-4: Mevcut çıkış değerleri, 8-12: Manuel Set değerleri, 15: Force bit 0:Normal, 1:Force
RW	28-29	Durum C-D	Çihaz durum bitleridir. Teknik manuele bakınız
RW	30-49	Çıkış SET values	ÇIKIŞ SET değerleri (Kanal1-5, 32bit işaretli), çalışma ayarları, hysteresis bilgileridir
RW	50-59	Tare Values	DARA değerleri (Kanal1-5, 32bit işaretli)
RW	60-69	mV/V (LC)	mV/V değerleri (Kanal1-5, 32bit işaretli)

0-1-2 nolu adresler kullanılarak özel komutlar icra edilir. Daha detaylı bilgi için Teknik Manuele bakınız...

Adr0	Adr1	Adr2	Açıklama
4	-	-	Reset komutu
x005	-	-	Sıfırlama (Power Off durumu uçucudur) x:Kanal 1005/2005/3005/4005/5005
x006	-	-	Dara alma komutu x:Kanal 1006/2006/3006/4006/5006
900x	-	-	Çoklu Sıfırlama (Power Off durumu uçucudur) x:Kanal 9001/9002/9004/9008/9016 tek kanal sıfırlama ve 9003 (ch1-2), 9005 (ch1-3) gibi kullanılır
9	-	-	Version okuma. Reg1 içerisinde cihaz ver ne okunur. 107 = v1.0.7
10	-	-	Parameters updated from eeprom to RAM
88	-	-	Profinet için PN Blink, RS232/485 için ID blink eder
x108	Kalib. Low	Kalib. High	Kalibrasyon komutu. x:Kanal 1108/2108/3108/4108/5108 ch2 kanalını 100,000 e kalibre etmek için;Reg0:2108 Reg1: 34464 (low) Reg2: 1 (high) kullanılır
x122	-	-	Kalibrasyon sıfır alınır. x:Kanal 1122/2122/3122/4122/5122
1x108	Calib. Low	-	Dijital Girişler için Kalibrasyon. x:Kanal 11108/12108/13108/14108/15108 To calibrate ch2 1,000 value;Reg0: 12108 Reg1: 1000(low) is used
1x122	-	-	Dijital Girişler için Sıfırlama. x:Kanal 11122/12122/13122/14122/15122
112	-	-	Tuşları kilitleme işlemdir. (Kalicidir)
113	-	-	Tuş kilidi kaldırma komutudur (Kalicidir)