

Your vision, automated



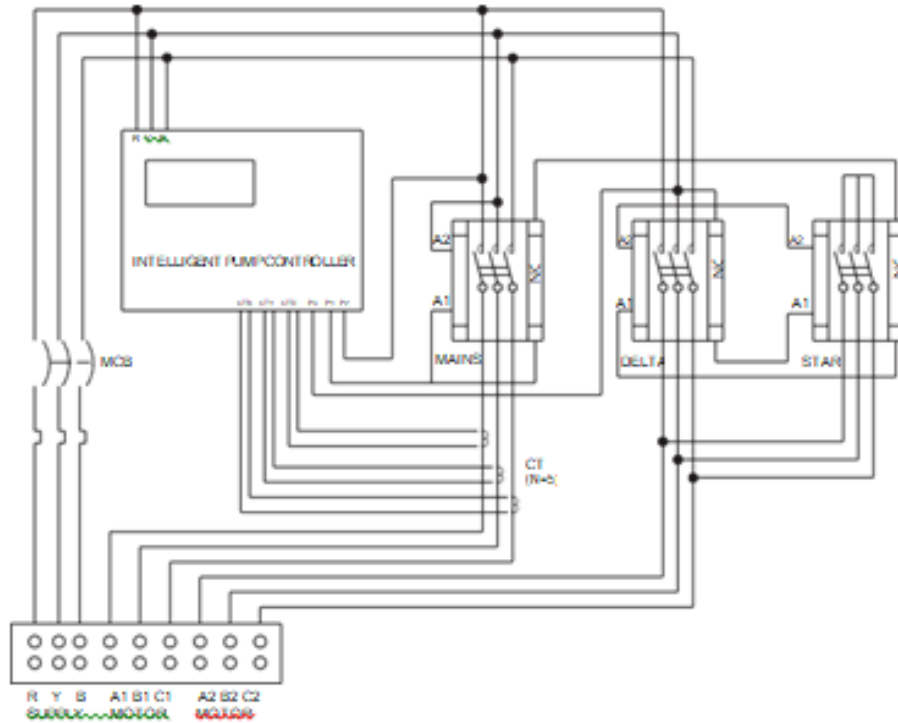
MCOM400M

INTELLIGENT PUMP CONTROLLER

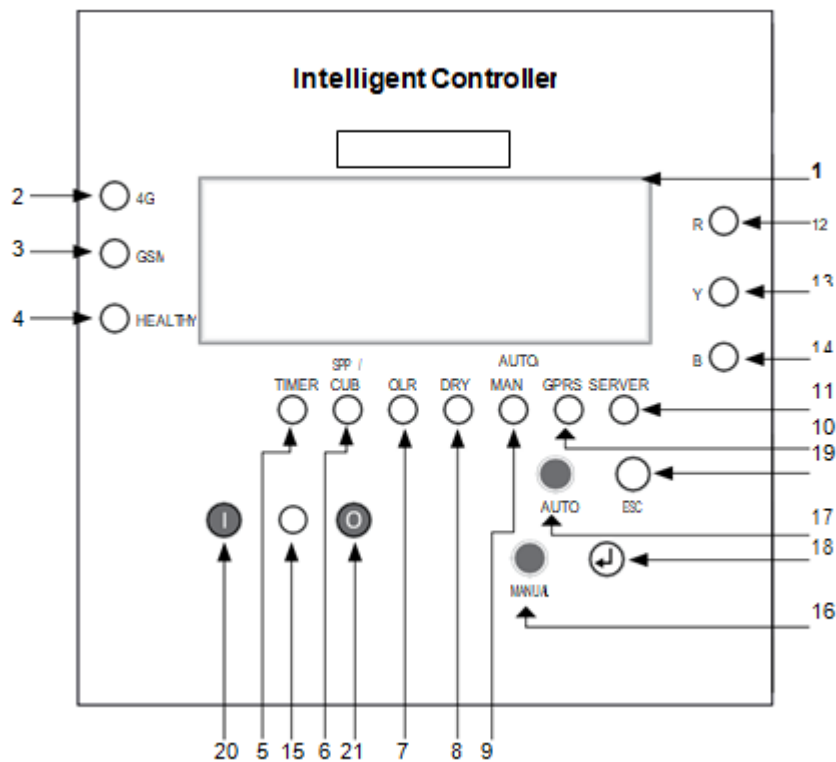


The MCOM400M is an intelligent pump controller designed for efficient monitoring, control, and protection of industrial pumps. It provides real-time status updates via LCD and LED indicators, safeguards against faults like overload, dry run, and phase issues, and supports remote monitoring and control through 4G/GSM connectivity with SMS alerts.

➤ WIRING DIAGRAM



➤ USER INTERFACE



1. LCD display
2. 4G network LED: Available – ON
3. GSM communication LED
4. Status LED: Healthy – ON; Faulty – Blink
5. Star – delta delay timer LED: Running – ON
6. Single phase prevention/ current unbalance/ phase reversal LED: Fault – ON
7. Overload relay LED: Fault – ON
8. Dry run LED: Fault – ON
9. Auto/ Manual LED: Pump in AUTO MODE – ON; Pump in MANUAL MODE – OFF
10. GPRS LED: Internet connection success – ON

11. Server LED: Server connection established – ON
12. R – Phase LED
13. Y – Phase LED
14. B – Phase LED
15. Pump LED: Pump ON – ON; Pump OFF – OFF
16. Manual button: To put pump in MANUAL MODE
17. Auto button: To put pump in AUTO MODE
18. Enter button: To save setting in device
19. Escape button: To get back from SETTING MODE
20. ON button: To ON pump in MANUAL MODE
21. OFF button: To OFF pump in MANUAL MODE & RESET ALL FAULTS

➤ LED INDICATIONS & SMS ALERTS

- LED indications

For all faults and for indicating tank full/ empty, there are LEDs on MCOM Intelligent Controller. The other LEDs that are present on Intelligent Controller are of Phase Voltages LEDs, Pump LED, 4G Network LED, GSM Communication LED, Status LED, Timer LED, GPRS LED and SERVER LED. Detailed description is in the table as below.

- SMS alerts

All registered users will receive alert SMS in case of current faults (Current SPP, Current Unbalance, Locked Rotor, Dry Run, and Overload). For all voltage faults, all registered users will receive alert SMS (Voltage SPP, Phase Reversal, Voltage Unbalance, Under Voltage, Over Voltage). Master will receive all fault clear SMS. All registered users will receive alert SMS after upper tank gets full or lower tank gets empty. In case of pump, panel theft or pump wire disconnection, master will receive emergency alert SMS. Detailed description is in the table as below.

Sr. No.	Fault	LED Indication	Display Indication	SMS	Auto Fault Reset
1.	Current SPP	SPP/Un Bal LED: RED ON	SPP / CUB	All Registered Users	No
2.	Current Unbalance	SPP/Un Bal LED: RED ON	SPP / CUB		No
3.	Locked Rotor	OL/LR LED: RED ON	OLR		No
4.	Dry Run	Dry Run LED: RED ON	DRY		No
5.	Overload	OL/LR LED: RED ON	OLR		No
6.	Voltage SPP	HEALTHY: RED BLINK	SPP / CUB		Yes
7.	Phase Reversal	SPP: RED ON HEALTHY: RED BLINK	SPP / CUB		No
8.	Voltage Unbalance	HEALTHY: RED BLINK	HEALTHY		Yes
9.	Under Voltage	HEALTHY: RED BLINK	HEALTHY		Yes
10.	Over Voltage	HEALTHY: RED BLINK	HEALTHY		Yes
11.	Fault clear SMS	HEALTHY: ON	HEALTHY	Only Master	
OTHER LED INDICATIONS ON DEVICE					
12.	GPRS	Internet Connected: ON	-	-	-
13.	SERVER	Server Connected: ON	-	-	-
14.	GSM	GSM Network	-	-	-
15.	4G	4G SIM Card Status	-	-	-

➤ INTERFACE

- INPUT TERMINALS

Sr. No.	Wire Colour	Details
1	Red	R Phase Input
2	Yellow	Y Phase Input
3	Blue	B Phase Input

- OUTPUT TERMINALS

Sr. No.	Wire Colour	Details
1	Green	Common for input supply R phase
2	Black 1	Main/ Start contact
3	Black 2	Star/ Stop contact

- CT TERMINALS

Sr. No.	Wire Colour	Details
1	Red + White	R Phase CT Input
2	Yellow + White	Y Phase CT Input
3	Blue + White	B Phase CT Input

➤ PROGRAMMING MODE/ NAVIGATION DETAILS

To enter into programming mode, please press auto and manual key/ button together for 2 seconds.

To set parameters, keys used should be as per table below:

Navigation	Key Used
Increment	AUTO
Decrement	MANUAL
Save the value	ENTER
Move to the next setting	ESCAPE

➤ FACTORY SETTINGS

Sr. No.	Parameters	Default Value	Range
1.	Set Pump Current	5.5A	1A to 99.9A
2.	Overload %	40%	20% to 50%
3.	Dry Run	60%	40% to 95%
4.	Current Unbalance	50%	30% to 90%
5.	High Voltage	450V	450V to 500V
6.	Low Voltage	250V	180V to 350V
7.	Power – ON Time	60s	1s to 300s
8.	Star – Delta Time	10s	3s to 30s
9.	Motor Mode	Auto	Auto/ Manual/ Bypass

• Fault Reset – Automatically

Modes	Voltage Fault	Current Fault	Dry Run Fault
AUTO	YES	NO	Yes, after Dry Run reset delay elapsed
MANUAL	YES	NO	Yes, after Dry Run reset delay elapsed
BYPASS	YES	YES	Yes

➤ SMS COMMANDS

SR. NO.	FUNCTION	COMMAND
1	To start pump	ON
2	To stop pump	OFF
3	To change starter server setting	SERVER1:IP and Port
4	To change starter APN setting	APN:"WWW"
5	To change SMS1 setting number	SMS1:+91*****
6	To change SMS2 setting number	SMS2:+91*****
7	To change SMS3 setting number	SMS3:+91*****
8	To change SMS4 setting number	SMS4:+91*****
9	To change SMS5 setting number	SMS5:+91*****
10	Real time status of pump on SMS	RTS
11	Set pump current in starter	SPC
12	Set auto mode of starter	AM
13	Set manual mode of starter	MM
14	Reset all pump fault	RST
15	Revert SMS facility ON	SMSA
16	Revert SMS facility OFF	SMSD
17	Parameter settings details	PSD
18	Overload % value (value should be between 20% to 50%) default value 40%	OLP:040
19	Power on timer (value should be between 1 to 300 in sec) default value 60 Sec	POT:060
20	Star delta timer (value should be between 3 to 30 in sec) default value 10 Sec	SDT:10

21	High voltage setting of pump in volts (value should be between 450 to 500 V) defaultvalue 450 volts	HV:500
22	Low voltage setting of pump in volts (value should be between 180 to 350) defaultvalue 250 volts	LV:280
23	Current unbalance setting of pump in % (value should be between 30 to 90) defaultvalue 50%	CUB:070
24	To reset modem	RESET
25	To enable scheduling	SHED:ON/OFF
26	Set scheduling 1 value (SH1:start-time,stop time in HH:MM format)	SH1:10:44,11:30
27	Set scheduling 2 value (SH2:start-time,stop time in HH:MM format)	SH2:10:44,11:30
28	Set scheduling 3 value (SH3:start-time,stop time in HH:MM format)	SH3:10:44,11:30
29	Set scheduling 4 value (SH4:start-time,stop time in HH:MM format)	SH4:10:44,11:30
30	Set IOT mode in device	IOT
31	Set SMS mode only in device	GSM

➤ PRODUCT SPECIFICATIONS

SR. NO.	PARAMETERS	SPECIFICATIONS
1	Rated voltage	415V; +10% - 15%
2	Rated insulation voltage	660V (Minimum)
3	Rated impulse withstand voltage	4KV
4	Rated frequency & duty	50Hz; Interrupted duty
5	Ambient air temperature	-5 °C to +50 °C
6	Coil specifications	
	a) Class of insulation & cooling type	H - class
	b) Operating voltage range	270 to 460V

➤ SELECTION TABLE

Sr. No.	Rating (HP)	KW	Current Rating of MCB (A) 'C' type curve & Breaking capacity – 10 kA	Min. contactor rating (A)	Relay range
1	15	11.19	32	25	7 A - 26.3 A
2	17.5	13.05	40	25	8.2 A - 30.7 A
3	20	14.91	50	25	9.4 A - 35.1 A
4	22.5	16.78	63	32	10.5 A - 39.5 A
5	25	18.64	63	32	11.7 A - 43.8 A
6	27.5	20.51	100	40	12.9 A - 48.2 A
7	30	22.37	100	50	14 A - 52.6 A
8	35	26.1	100	65	16.4 A - 61.4 A
9	40	29.83	100	65	18.7 A - 70.2 A
10	45	33.56	125	65	21 A - 78.9 A

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