Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **20.0 [V]**

Throttle setting: 100%

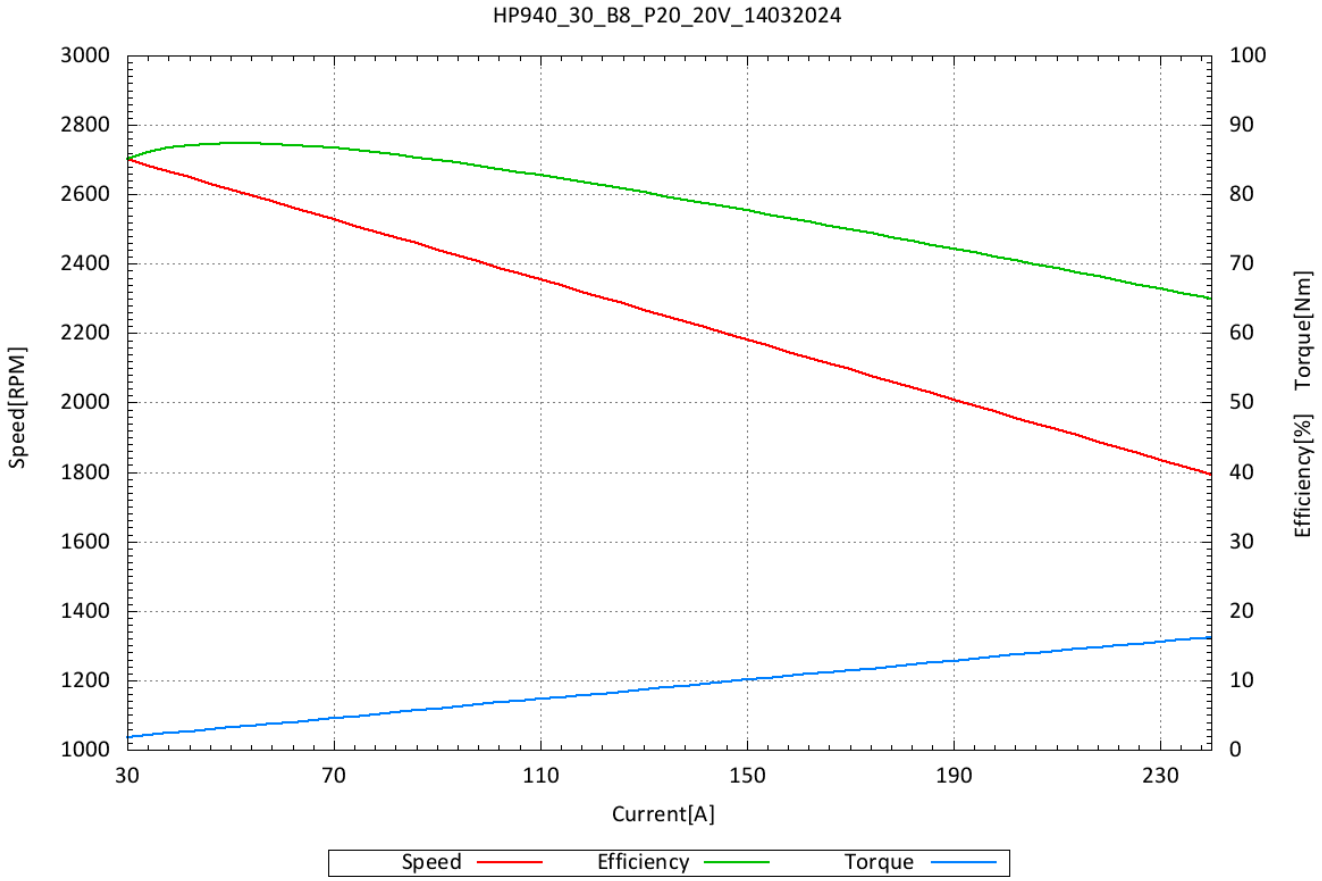
Calculated Motor Constants

nl: 2,813.4 [RPM] Io: 3.9 [A] kV: 141.5 [RPM/V] kn: -4.32 [RPM/A] kT: 6.89 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
19.9	30.0	2,700.5	597.0	509.3	180.1	85.31
19.9	34.0	2,683.2	676.6	583.3	207.6	86.21
19.9	38.0	2,665.9	756.2	656.6	235.2	86.83
19.9	42.0	2,648.6	835.8	728.9	262.8	87.21
19.9	46.0	2,631.3	915.4	799.9	290.3	87.38
19.9	50.0	2,614.0	995.0	870.2	317.9	87.46
19.9	54.0	2,596.7	1,074.6	939.5	345.5	87.43
19.9	58.0	2,579.4	1,154.2	1,007.8	373.1	87.32
19.9	62.0	2,562.2	1,233.8	1,074.9	400.6	87.12
19.9	66.0	2,544.9	1,313.4	1,141.2	428.2	86.89
19.9	70.0	2,527.6	1,393.0	1,206.5	455.8	86.61
19.9	74.0	2,510.3	1,472.6	1,270.8	483.4	86.29
19.9	78.0	2,493.0	1,552.2	1,333.8	510.9	85.93
19.9	82.0	2,475.7	1,631.8	1,396.1	538.5	85.56
19.9	86.0	2,458.4	1,711.4	1,457.4	566.1	85.16
19.8	90.0	2,441.1	1,782.0	1,517.4	593.6	85.15
19.8	94.0	2,423.8	1,861.2	1,576.7	621.2	84.72
19.8	98.0	2,406.5	1,940.4	1,635.0	648.8	84.26
19.8	102.0	2,389.3	2,019.6	1,692.4	676.4	83.80
19.8	106.0	2,372.0	2,098.8	1,748.5	703.9	83.31
19.8	110.0	2,354.7	2,178.0	1,803.8	731.5	82.82
19.8	114.0	2,337.4	2,257.2	1,858.1	759.1	82.32
19.8	118.0	2,320.1	2,336.4	1,911.1	786.6	81.80
19.8	122.0	2,302.8	2,415.6	1,963.4	814.2	81.28
19.8	126.0	2,285.5	2,494.8	2,014.7	841.8	80.76
19.8	130.0	2,268.2	2,574.0	2,065.0	869.4	80.23

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
19.8	134.0	2,250.9	2,653.2	2,114.1	896.9	79.68
19.8	138.0	2,233.7	2,732.4	2,162.5	924.5	79.14
19.8	142.0	2,216.4	2,811.6	2,209.8	952.1	78.60
19.8	146.0	2,199.1	2,890.8	2,255.9	979.6	78.04
19.7	150.0	2,181.8	2,955.0	2,301.2	1,007.2	77.88
19.7	154.0	2,164.5	3,033.8	2,345.5	1,034.8	77.31
19.7	158.0	2,147.2	3,112.6	2,388.9	1,062.4	76.75
19.7	162.0	2,129.9	3,191.4	2,430.9	1,089.9	76.17
19.7	166.0	2,112.6	3,270.2	2,472.3	1,117.5	75.60
19.7	170.0	2,095.3	3,349.0	2,512.6	1,145.1	75.02
19.7	174.0	2,078.0	3,427.8	2,551.9	1,172.7	74.45
19.7	178.0	2,060.8	3,506.6	2,590.1	1,200.2	73.86
19.7	182.0	2,043.5	3,585.4	2,627.4	1,227.8	73.28
19.7	186.0	2,026.2	3,664.2	2,663.7	1,255.4	72.70
19.7	190.0	2,008.9	3,743.0	2,698.9	1,282.9	72.10
19.7	194.0	1,991.6	3,821.8	2,733.2	1,310.5	71.52
19.7	198.0	1,974.3	3,900.6	2,766.5	1,338.1	70.92
19.7	202.0	1,957.0	3,979.4	2,798.8	1,365.7	70.33
19.7	206.0	1,939.7	4,058.2	2,829.9	1,393.2	69.73
19.6	210.0	1,922.4	4,116.0	2,860.3	1,420.8	69.49
19.6	214.0	1,905.2	4,194.4	2,889.7	1,448.4	68.90
19.6	218.0	1,887.9	4,272.8	2,917.9	1,475.9	68.29
19.6	222.0	1,870.6	4,351.2	2,945.2	1,503.5	67.69
19.6	226.0	1,853.3	4,429.6	2,971.5	1,531.1	67.08
19.6	230.0	1,836.0	4,508.0	2,996.8	1,558.7	66.48
19.6	234.0	1,818.7	4,586.4	3,021.0	1,586.2	65.87
19.6	238.0	1,801.4	4,664.8	3,044.3	1,613.8	65.26
19.6	242.0	1,784.1	4,743.2	3,066.6	1,641.4	64.65

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_20V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **25.0 [V]**

Throttle setting: 100%

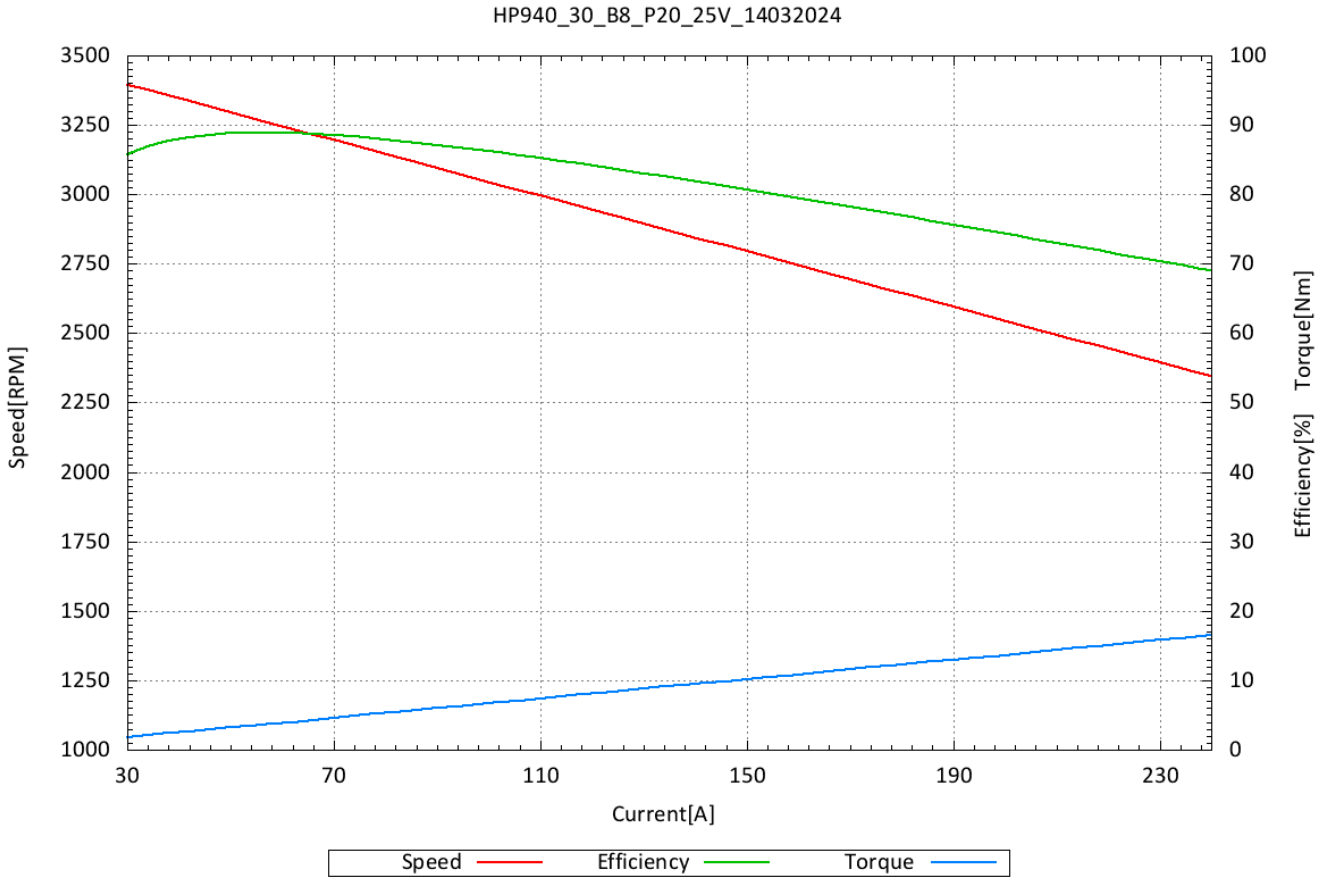
Calculated Motor Constants

nl: 3,524.6 [RPM] Io: 4.2 [A] kV: 141.8 [RPM/V] kn: -5.00 [RPM/A] kT: 6.98 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
24.9	30.0	3,395.4	747.0	641.8	180.5	85.92
24.9	34.0	3,375.3	846.6	736.6	208.4	87.01
24.9	38.0	3,355.3	946.2	830.3	236.3	87.75
24.9	42.0	3,335.3	1,045.8	923.1	264.3	88.27
24.9	46.0	3,315.3	1,145.4	1,014.5	292.2	88.57
24.9	50.0	3,295.3	1,245.0	1,104.6	320.1	88.72
24.9	54.0	3,275.3	1,344.6	1,193.9	348.1	88.80
24.9	58.0	3,255.3	1,444.2	1,281.8	376.0	88.75
24.8	62.0	3,235.3	1,537.6	1,368.4	403.9	89.00
24.8	66.0	3,215.2	1,636.8	1,454.2	431.9	88.84
24.8	70.0	3,195.2	1,736.0	1,538.5	459.8	88.62
24.8	74.0	3,175.2	1,835.2	1,622.0	487.8	88.38
24.8	78.0	3,155.2	1,934.4	1,703.9	515.7	88.09
24.8	82.0	3,135.2	2,033.6	1,784.7	543.6	87.76
24.8	86.0	3,115.2	2,132.8	1,864.7	571.6	87.43
24.8	90.0	3,095.2	2,232.0	1,943.2	599.5	87.06
24.8	94.0	3,075.2	2,331.2	2,020.4	627.4	86.67
24.8	98.0	3,055.1	2,430.4	2,096.8	655.4	86.27
24.8	102.0	3,035.1	2,529.6	2,171.8	683.3	85.85
24.7	106.0	3,015.1	2,618.2	2,245.5	711.2	85.77
24.7	110.0	2,995.1	2,717.0	2,318.5	739.2	85.33
24.7	114.0	2,975.1	2,815.8	2,389.9	767.1	84.88
24.7	118.0	2,955.1	2,914.6	2,460.2	795.0	84.41
24.7	122.0	2,935.1	3,013.4	2,529.6	823.0	83.94
24.7	126.0	2,915.1	3,112.2	2,597.5	850.9	83.46
24.7	130.0	2,895.0	3,211.0	2,664.2	878.8	82.97

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
24.7	134.0	2,875.0	3,309.8	2,730.1	906.8	82.49
24.7	138.0	2,855.0	3,408.6	2,794.5	934.7	81.98
24.7	142.0	2,835.0	3,507.4	2,858.1	962.7	81.49
24.6	146.0	2,815.0	3,591.6	2,920.2	990.6	81.31
24.6	150.0	2,795.0	3,690.0	2,981.1	1,018.5	80.79
24.6	154.0	2,775.0	3,788.4	3,041.1	1,046.5	80.27
24.6	158.0	2,755.0	3,886.8	3,099.7	1,074.4	79.75
24.6	162.0	2,734.9	3,985.2	3,157.0	1,102.3	79.22
24.6	166.0	2,714.9	4,083.6	3,213.5	1,130.3	78.69
24.6	170.0	2,694.9	4,182.0	3,268.5	1,158.2	78.16
24.6	174.0	2,674.9	4,280.4	3,322.4	1,186.1	77.62
24.6	178.0	2,654.9	4,378.8	3,375.4	1,214.1	77.09
24.6	182.0	2,634.9	4,477.2	3,427.0	1,242.0	76.54
24.5	186.0	2,614.9	4,557.0	3,477.4	1,269.9	76.31
24.5	190.0	2,594.9	4,655.0	3,526.9	1,297.9	75.77
24.5	194.0	2,574.8	4,753.0	3,574.8	1,325.8	75.21
24.5	198.0	2,554.8	4,851.0	3,621.7	1,353.7	74.66
24.5	202.0	2,534.8	4,949.0	3,667.6	1,381.7	74.11
24.5	206.0	2,514.8	5,047.0	3,712.2	1,409.6	73.55
24.5	210.0	2,494.8	5,145.0	3,755.8	1,437.6	73.00
24.5	214.0	2,474.8	5,243.0	3,798.0	1,465.5	72.44
24.5	218.0	2,454.8	5,341.0	3,839.0	1,493.4	71.88
24.5	222.0	2,434.8	5,439.0	3,879.1	1,521.4	71.32
24.5	226.0	2,414.7	5,537.0	3,917.7	1,549.3	70.75
24.4	230.0	2,394.7	5,612.0	3,955.2	1,577.2	70.48
24.4	234.0	2,374.7	5,709.6	3,991.8	1,605.2	69.91
24.4	238.0	2,354.7	5,807.2	4,027.0	1,633.1	69.34
24.4	242.0	2,334.7	5,904.8	4,061.0	1,661.0	68.77

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_25V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
3500
3250
3000
2750
2500
2250
2000
1750
1500
1250
1000
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **30.0 [V]**

Throttle setting: 100%

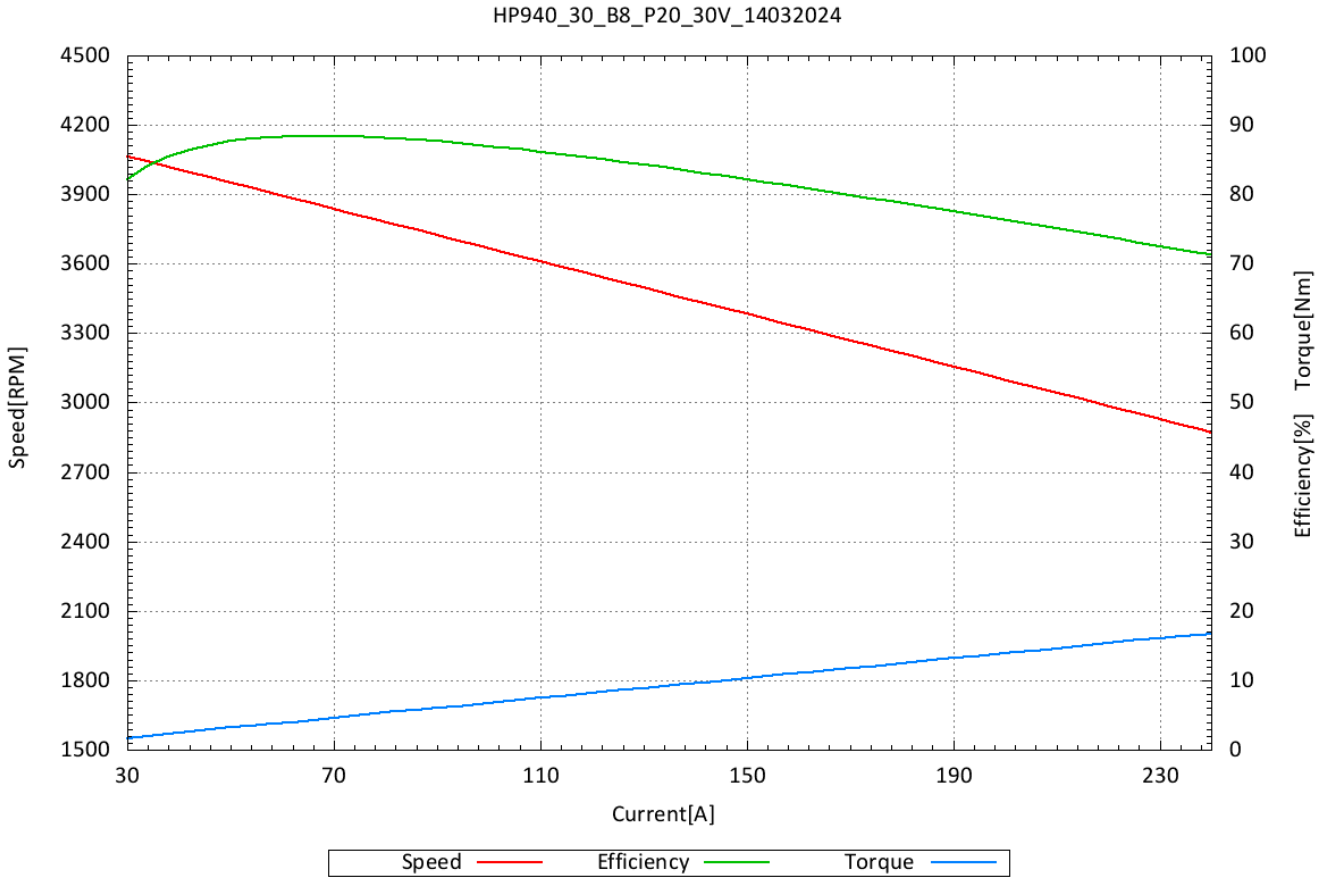
Calculated Motor Constants

nl: 4,202.4 [RPM] Io: 5.8 [A] kV: 141.2 [RPM/V] kn: -5.68 [RPM/A] kT: 7.16 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
29.9	30.0	4,064.8	897.0	738.5	173.5	82.33
29.9	34.0	4,042.0	1,016.6	855.4	202.1	84.15
29.9	38.0	4,019.3	1,136.2	971.0	230.7	85.46
29.9	42.0	3,996.6	1,255.8	1,085.6	259.4	86.45
29.9	46.0	3,973.9	1,375.4	1,198.5	288.0	87.14
29.9	50.0	3,951.2	1,495.0	1,310.0	316.6	87.62
29.9	54.0	3,928.5	1,614.6	1,420.1	345.2	87.96
29.9	58.0	3,905.8	1,734.2	1,529.3	373.9	88.19
29.9	62.0	3,883.0	1,853.8	1,636.7	402.5	88.29
29.9	66.0	3,860.3	1,973.4	1,742.7	431.1	88.31
29.8	70.0	3,837.6	2,086.0	1,847.4	459.7	88.56
29.8	74.0	3,814.9	2,205.2	1,951.1	488.4	88.48
29.8	78.0	3,792.2	2,324.4	2,053.1	517.0	88.33
29.8	82.0	3,769.5	2,443.6	2,153.7	545.6	88.14
29.8	86.0	3,746.7	2,562.8	2,252.9	574.2	87.91
29.8	90.0	3,724.0	2,682.0	2,351.2	602.9	87.66
29.8	94.0	3,701.3	2,801.2	2,447.7	631.5	87.38
29.8	98.0	3,678.6	2,920.4	2,542.9	660.1	87.07
29.8	102.0	3,655.9	3,039.6	2,636.7	688.7	86.74
29.8	106.0	3,633.2	3,158.8	2,729.5	717.4	86.41
29.8	110.0	3,610.4	3,278.0	2,820.5	746.0	86.04
29.7	114.0	3,587.7	3,385.8	2,910.2	774.6	85.95
29.7	118.0	3,565.0	3,504.6	2,998.6	803.2	85.56
29.7	122.0	3,542.3	3,623.4	3,085.9	831.9	85.17
29.7	126.0	3,519.6	3,742.2	3,171.6	860.5	84.75
29.7	130.0	3,496.9	3,861.0	3,255.8	889.1	84.33

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
29.7	134.0	3,474.2	3,979.8	3,338.8	917.7	83.89
29.7	138.0	3,451.4	4,098.6	3,420.6	946.4	83.46
29.7	142.0	3,428.7	4,217.4	3,500.8	975.0	83.01
29.7	146.0	3,406.0	4,336.2	3,579.6	1,003.6	82.55
29.7	150.0	3,383.3	4,455.0	3,657.1	1,032.2	82.09
29.7	154.0	3,360.6	4,573.8	3,733.5	1,060.9	81.63
29.7	158.0	3,337.9	4,692.6	3,808.3	1,089.5	81.16
29.6	162.0	3,315.1	4,795.2	3,881.6	1,118.1	80.95
29.6	166.0	3,292.4	4,913.6	3,953.6	1,146.7	80.46
29.6	170.0	3,269.7	5,032.0	4,024.6	1,175.4	79.98
29.6	174.0	3,247.0	5,150.4	4,093.9	1,204.0	79.49
29.6	178.0	3,224.3	5,268.8	4,161.8	1,232.6	78.99
29.6	182.0	3,201.6	5,387.2	4,228.4	1,261.2	78.49
29.6	186.0	3,178.8	5,505.6	4,293.9	1,289.9	77.99
29.6	190.0	3,156.1	5,624.0	4,357.7	1,318.5	77.48
29.6	194.0	3,133.4	5,742.4	4,420.2	1,347.1	76.98
29.6	198.0	3,110.7	5,860.8	4,481.4	1,375.7	76.46
29.6	202.0	3,088.0	5,979.2	4,541.5	1,404.4	75.95
29.5	206.0	3,065.3	6,077.0	4,599.9	1,433.0	75.69
29.5	210.0	3,042.6	6,195.0	4,657.0	1,461.6	75.17
29.5	214.0	3,019.8	6,313.0	4,712.5	1,490.2	74.65
29.5	218.0	2,997.1	6,431.0	4,767.2	1,518.9	74.13
29.5	222.0	2,974.4	6,549.0	4,820.1	1,547.5	73.60
29.5	226.0	2,951.7	6,667.0	4,871.7	1,576.1	73.07
29.5	230.0	2,929.0	6,785.0	4,922.0	1,604.7	72.54
29.5	234.0	2,906.3	6,903.0	4,971.2	1,633.4	72.02
29.5	238.0	2,883.5	7,021.0	5,018.6	1,662.0	71.48
29.5	242.0	2,860.8	7,139.0	5,064.7	1,690.6	70.94

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_30V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
4500
4200
3900
3600
3300
3000
2700
2400
2100
1800
1500
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **35.0 [V]**

Throttle setting: 100%

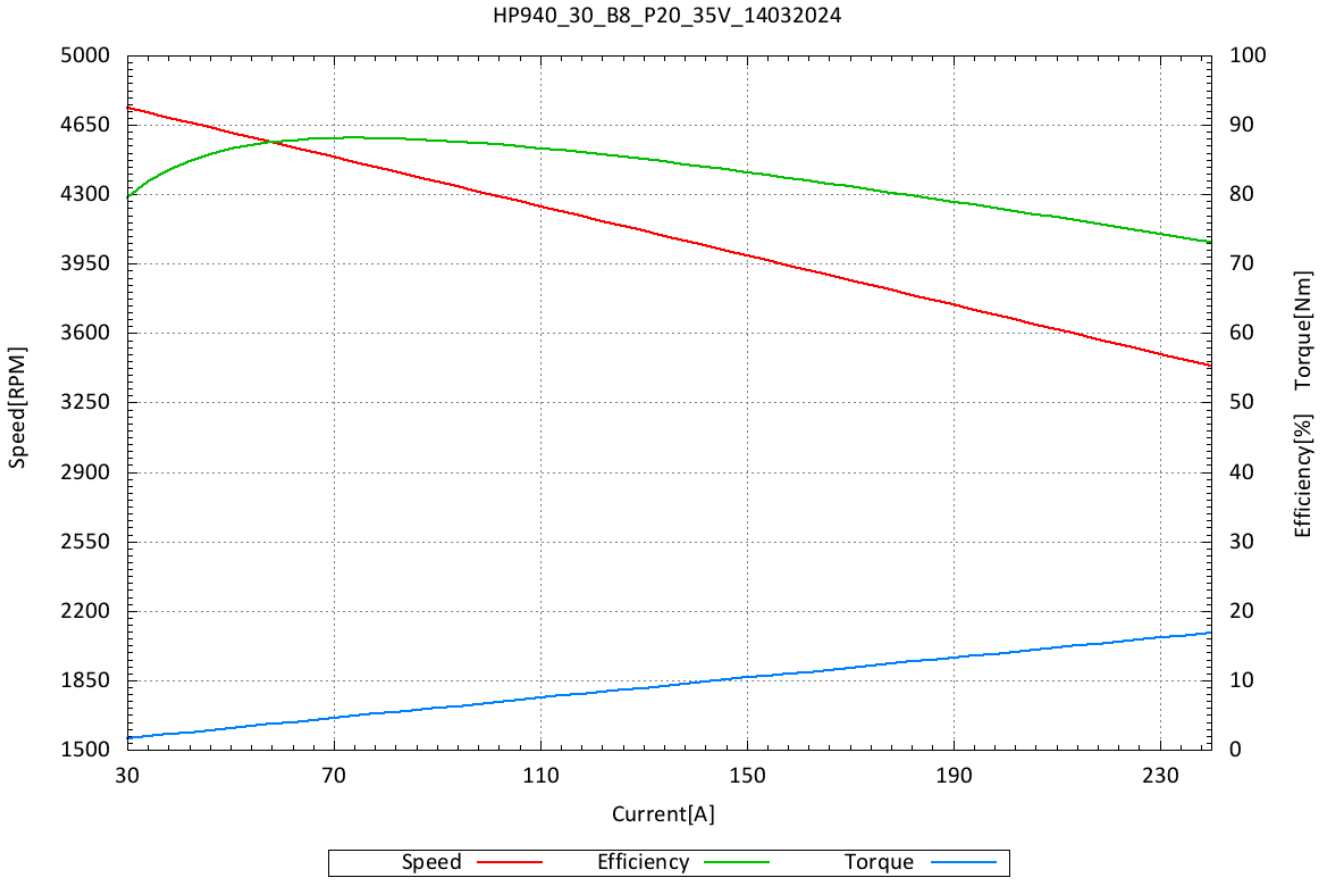
Calculated Motor Constants

nl: 4,880.1 [RPM] Io: 6.8 [A] kV: 140.6 [RPM/V] kn: -6.20 [RPM/A] kT: 7.24 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
34.9	30.0	4,736.1	1,047.0	833.2	168.0	79.58
34.9	34.0	4,711.3	1,186.6	971.9	197.0	81.91
34.9	38.0	4,686.5	1,326.2	1,109.1	226.0	83.63
34.9	42.0	4,661.7	1,465.8	1,244.4	254.9	84.89
34.9	46.0	4,636.8	1,605.4	1,378.5	283.9	85.87
34.9	50.0	4,612.0	1,745.0	1,510.7	312.8	86.57
34.9	54.0	4,587.2	1,884.6	1,641.9	341.8	87.12
34.9	58.0	4,562.4	2,024.2	1,771.1	370.7	87.50
34.9	62.0	4,537.6	2,163.8	1,899.3	399.7	87.78
34.9	66.0	4,512.8	2,303.4	2,025.5	428.6	87.93
34.9	70.0	4,488.0	2,443.0	2,150.6	457.6	88.03
34.9	74.0	4,463.2	2,582.6	2,274.3	486.6	88.06
34.9	78.0	4,438.4	2,722.2	2,396.0	515.5	88.02
34.9	82.0	4,413.5	2,861.8	2,516.6	544.5	87.94
34.8	86.0	4,388.7	2,992.8	2,635.3	573.4	88.05
34.8	90.0	4,363.9	3,132.0	2,752.9	602.4	87.90
34.8	94.0	4,339.1	3,271.2	2,868.6	631.3	87.69
34.8	98.0	4,314.3	3,410.4	2,983.2	660.3	87.47
34.8	102.0	4,289.5	3,549.6	3,095.9	689.2	87.22
34.8	106.0	4,264.7	3,688.8	3,207.5	718.2	86.95
34.8	110.0	4,239.9	3,828.0	3,317.6	747.2	86.67
34.8	114.0	4,215.0	3,967.2	3,425.7	776.1	86.35
34.8	118.0	4,190.2	4,106.4	3,532.8	805.1	86.03
34.8	122.0	4,165.4	4,245.6	3,637.9	834.0	85.69
34.8	126.0	4,140.6	4,384.8	3,742.0	863.0	85.34
34.8	130.0	4,115.8	4,524.0	3,844.1	891.9	84.97

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
34.8	134.0	4,091.0	4,663.2	3,945.2	920.9	84.60
34.8	138.0	4,066.2	4,802.4	4,044.4	949.8	84.22
34.7	142.0	4,041.4	4,927.4	4,142.4	978.8	84.07
34.7	146.0	4,016.5	5,066.2	4,238.9	1,007.8	83.67
34.7	150.0	3,991.7	5,205.0	4,333.5	1,036.7	83.26
34.7	154.0	3,966.9	5,343.8	4,427.1	1,065.7	82.84
34.7	158.0	3,942.1	5,482.6	4,518.7	1,094.6	82.42
34.7	162.0	3,917.3	5,621.4	4,609.2	1,123.6	81.99
34.7	166.0	3,892.5	5,760.2	4,697.8	1,152.5	81.56
34.7	170.0	3,867.7	5,899.0	4,785.4	1,181.5	81.12
34.7	174.0	3,842.9	6,037.8	4,871.0	1,210.4	80.67
34.7	178.0	3,818.0	6,176.6	4,955.4	1,239.4	80.23
34.7	182.0	3,793.2	6,315.4	5,038.4	1,268.4	79.78
34.7	186.0	3,768.4	6,454.2	5,119.5	1,297.3	79.32
34.7	190.0	3,743.6	6,593.0	5,199.5	1,326.3	78.86
34.7	194.0	3,718.8	6,731.8	5,277.6	1,355.2	78.40
34.6	198.0	3,694.0	6,850.8	5,354.6	1,384.2	78.16
34.6	202.0	3,669.2	6,989.2	5,429.7	1,413.1	77.69
34.6	206.0	3,644.4	7,127.6	5,503.6	1,442.1	77.22
34.6	210.0	3,619.6	7,266.0	5,575.7	1,471.0	76.74
34.6	214.0	3,594.7	7,404.4	5,646.5	1,500.0	76.26
34.6	218.0	3,569.9	7,542.8	5,715.6	1,528.9	75.78
34.6	222.0	3,545.1	7,681.2	5,783.6	1,557.9	75.30
34.6	226.0	3,520.3	7,819.6	5,850.0	1,586.9	74.81
34.6	230.0	3,495.5	7,958.0	5,914.6	1,615.8	74.32
34.6	234.0	3,470.7	8,096.4	5,978.0	1,644.8	73.84
34.6	238.0	3,445.9	8,234.8	6,039.6	1,673.7	73.34
34.6	242.0	3,421.1	8,373.2	6,100.0	1,702.7	72.85

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_35V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
5000
4650
4300
3950
3600
3250
2900
2550
2200
1850
1500
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **40.0 [V]**

Throttle setting: 100%

Calculated Motor Constants

nl: 5,585.8 [RPM] Io: 6.7 [A] kV: 140.8 [RPM/V] kn: -6.75 [RPM/A] kT: 7.28 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
40.0	30.0	5,428.6	1,200.0	964.1	169.6	80.35
39.9	34.0	5,401.6	1,356.6	1,124.0	198.7	82.85
39.9	38.0	5,374.6	1,516.2	1,282.1	227.8	84.56
39.9	42.0	5,347.5	1,675.8	1,439.2	257.0	85.88
39.9	46.0	5,320.5	1,835.4	1,594.0	286.1	86.85
39.9	50.0	5,293.5	1,995.0	1,747.8	315.3	87.61
39.9	54.0	5,266.5	2,154.6	1,899.4	344.4	88.16
39.9	58.0	5,239.5	2,314.2	2,049.3	373.5	88.55
39.9	62.0	5,212.5	2,473.8	2,198.1	402.7	88.86
39.9	66.0	5,185.5	2,633.4	2,344.8	431.8	89.04
39.9	70.0	5,158.5	2,793.0	2,490.3	461.0	89.16
39.9	74.0	5,131.4	2,952.6	2,633.6	490.1	89.20
39.9	78.0	5,104.4	3,112.2	2,775.3	519.2	89.17
39.9	82.0	5,077.4	3,271.8	2,915.9	548.4	89.12
39.9	86.0	5,050.4	3,431.4	3,054.3	577.5	89.01
39.9	90.0	5,023.4	3,591.0	3,191.5	606.7	88.88
39.9	94.0	4,996.4	3,750.6	3,326.6	635.8	88.70
39.9	98.0	4,969.4	3,910.2	3,460.1	664.9	88.49
39.8	102.0	4,942.4	4,059.6	3,592.4	694.1	88.49
39.8	106.0	4,915.3	4,218.8	3,722.5	723.2	88.24
39.8	110.0	4,888.3	4,378.0	3,851.5	752.4	87.98
39.8	114.0	4,861.3	4,537.2	3,978.4	781.5	87.68
39.8	118.0	4,834.3	4,696.4	4,103.6	810.6	87.38
39.8	122.0	4,807.3	4,855.6	4,227.7	839.8	87.07
39.8	126.0	4,780.3	5,014.8	4,349.6	868.9	86.74
39.8	130.0	4,753.3	5,174.0	4,470.4	898.1	86.40

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
39.8	134.0	4,726.3	5,333.2	4,589.1	927.2	86.05
39.8	138.0	4,699.2	5,492.4	4,705.9	956.3	85.68
39.8	142.0	4,672.2	5,651.6	4,821.8	985.5	85.32
39.8	146.0	4,645.2	5,810.8	4,935.5	1,014.6	84.94
39.8	150.0	4,618.2	5,970.0	5,048.0	1,043.8	84.56
39.8	154.0	4,591.2	6,129.2	5,158.4	1,072.9	84.16
39.8	158.0	4,564.2	6,288.4	5,267.1	1,102.0	83.76
39.8	162.0	4,537.2	6,447.6	5,374.7	1,131.2	83.36
39.8	166.0	4,510.2	6,606.8	5,480.2	1,160.3	82.95
39.7	170.0	4,483.1	6,749.0	5,584.3	1,189.5	82.74
39.7	174.0	4,456.1	6,907.8	5,686.5	1,218.6	82.32
39.7	178.0	4,429.1	7,066.6	5,787.0	1,247.7	81.89
39.7	182.0	4,402.1	7,225.4	5,886.3	1,276.9	81.47
39.7	186.0	4,375.1	7,384.2	5,983.6	1,306.0	81.03
39.7	190.0	4,348.1	7,543.0	6,079.6	1,335.2	80.60
39.7	194.0	4,321.1	7,701.8	6,173.5	1,364.3	80.16
39.7	198.0	4,294.1	7,860.6	6,265.8	1,393.4	79.71
39.7	202.0	4,267.0	8,019.4	6,356.7	1,422.6	79.27
39.7	206.0	4,240.0	8,178.2	6,445.7	1,451.7	78.82
39.7	210.0	4,213.0	8,337.0	6,533.5	1,480.9	78.37
39.7	214.0	4,186.0	8,495.8	6,619.2	1,510.0	77.91
39.7	218.0	4,159.0	8,654.6	6,703.2	1,539.1	77.45
39.7	222.0	4,132.0	8,813.4	6,786.1	1,568.3	77.00
39.7	226.0	4,105.0	8,972.2	6,866.8	1,597.4	76.53
39.7	230.0	4,078.0	9,131.0	6,945.9	1,626.5	76.07
39.7	234.0	4,050.9	9,289.8	7,023.6	1,655.7	75.61
39.6	238.0	4,023.9	9,424.8	7,099.4	1,684.8	75.33
39.6	242.0	3,996.9	9,583.2	7,174.0	1,714.0	74.86

nl = rpm with no load

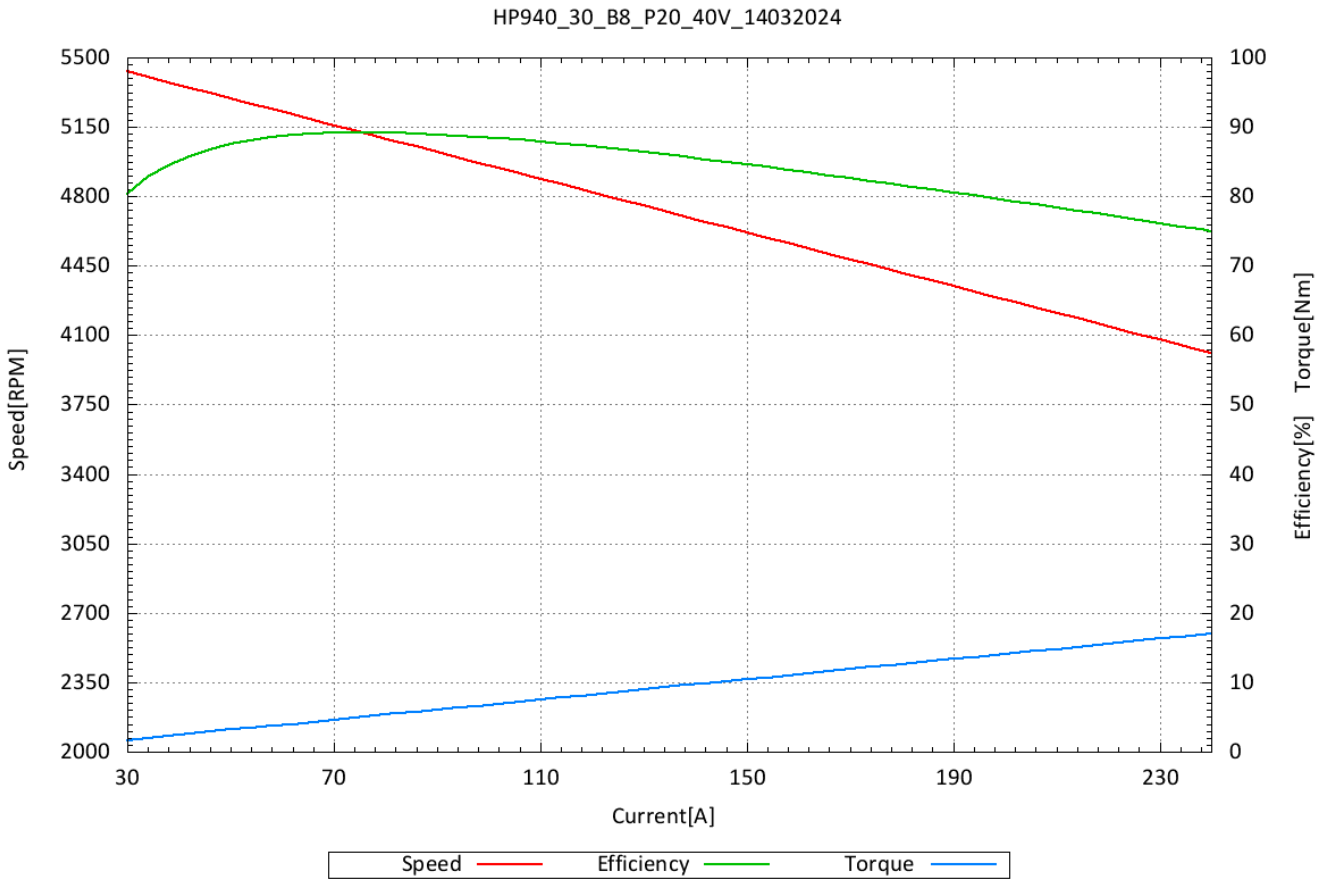
Io = current with no load

kV = specific rpm

kn = rpm drop per Amp

kT = torque constant

[1] incl. Controller


HP940_30_B8_P20_40V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
5500
5150
4800
4450
4100
3750
3400
3050
2700
2350
2000
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **45.0 [V]**

Throttle setting: 100%

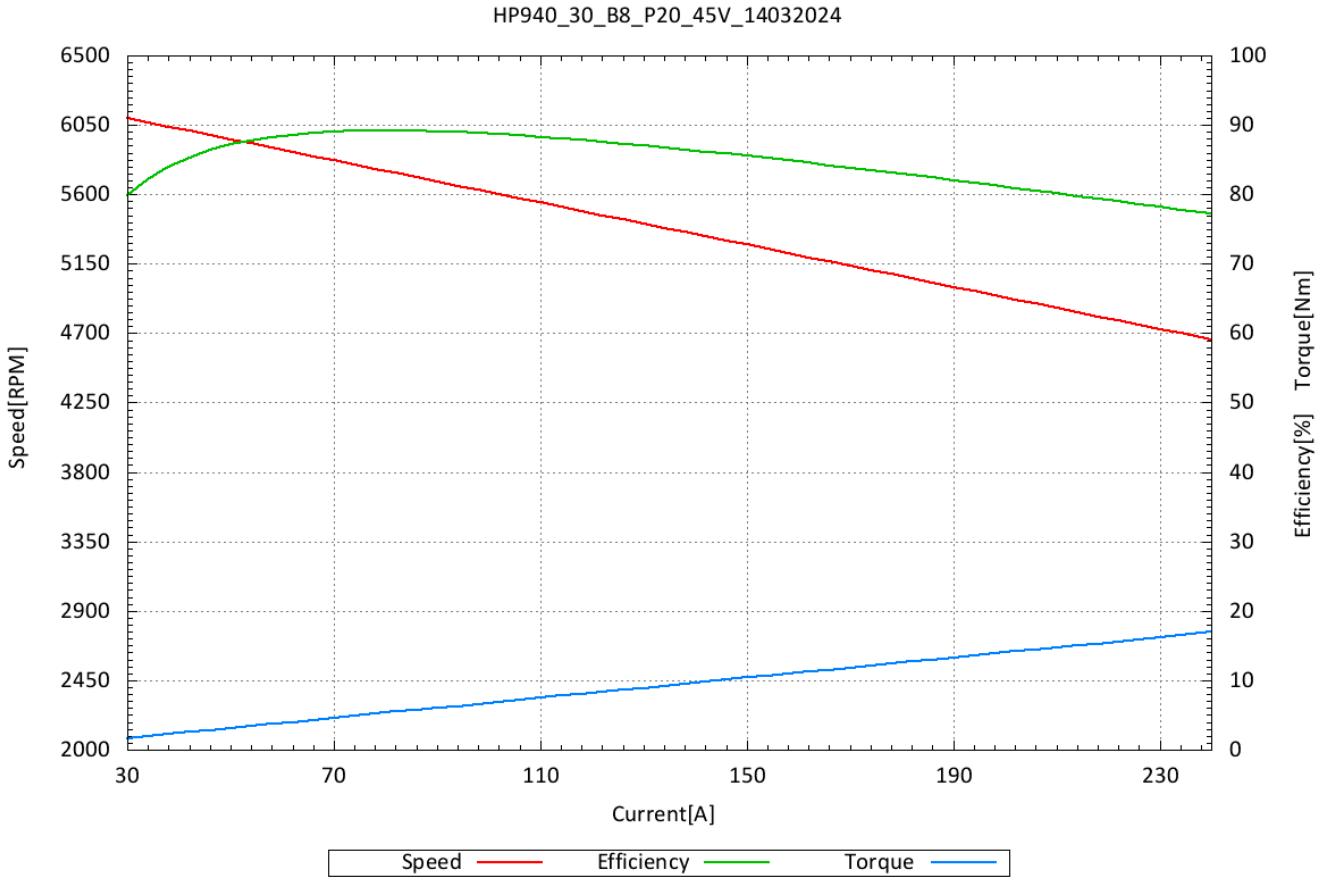
Calculated Motor Constants

nl: 6,252.4 [RPM] Io: 6.7 [A] kV: 140.0 [RPM/V] kn: -6.83 [RPM/A] kT: 7.25 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
44.9	30.0	6,093.4	1,347.0	1,077.1	168.8	79.96
44.9	34.0	6,066.1	1,526.6	1,256.5	197.8	82.31
44.9	38.0	6,038.8	1,706.2	1,434.2	226.8	84.06
44.9	42.0	6,011.5	1,885.8	1,610.3	255.8	85.39
44.9	46.0	5,984.2	2,065.4	1,784.7	284.8	86.41
44.9	50.0	5,956.9	2,245.0	1,957.5	313.8	87.19
44.9	54.0	5,929.5	2,424.6	2,128.6	342.8	87.79
44.9	58.0	5,902.2	2,604.2	2,298.0	371.8	88.24
44.9	62.0	5,874.9	2,783.8	2,465.8	400.8	88.58
44.9	66.0	5,847.6	2,963.4	2,631.3	429.7	88.79
44.9	70.0	5,820.3	3,143.0	2,795.8	458.7	88.95
44.9	74.0	5,793.0	3,322.6	2,958.6	487.7	89.04
44.9	78.0	5,765.6	3,502.2	3,119.7	516.7	89.08
44.8	82.0	5,738.3	3,673.6	3,279.2	545.7	89.26
44.8	86.0	5,711.0	3,852.8	3,437.0	574.7	89.21
44.8	90.0	5,683.7	4,032.0	3,593.2	603.7	89.12
44.8	94.0	5,656.4	4,211.2	3,747.7	632.7	88.99
44.8	98.0	5,629.1	4,390.4	3,900.6	661.7	88.84
44.8	102.0	5,601.8	4,569.6	4,051.8	690.7	88.67
44.8	106.0	5,574.4	4,748.8	4,201.2	719.7	88.47
44.8	110.0	5,547.1	4,928.0	4,349.1	748.7	88.25
44.8	114.0	5,519.8	5,107.2	4,495.4	777.7	88.02
44.8	118.0	5,492.5	5,286.4	4,639.9	806.7	87.77
44.8	122.0	5,465.2	5,465.6	4,782.8	835.7	87.51
44.8	126.0	5,437.9	5,644.8	4,924.1	864.7	87.23
44.8	130.0	5,410.5	5,824.0	5,063.6	893.7	86.94

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
44.7	134.0	5,383.2	5,989.8	5,201.5	922.7	86.84
44.7	138.0	5,355.9	6,168.6	5,337.8	951.7	86.53
44.7	142.0	5,328.6	6,347.4	5,472.4	980.7	86.21
44.7	146.0	5,301.3	6,526.2	5,605.4	1,009.7	85.89
44.7	150.0	5,274.0	6,705.0	5,736.7	1,038.7	85.56
44.7	154.0	5,246.7	6,883.8	5,866.3	1,067.7	85.22
44.7	158.0	5,219.3	7,062.6	5,994.2	1,096.7	84.87
44.7	162.0	5,192.0	7,241.4	6,120.5	1,125.7	84.52
44.7	166.0	5,164.7	7,420.2	6,245.2	1,154.7	84.16
44.7	170.0	5,137.4	7,599.0	6,367.6	1,183.6	83.80
44.7	174.0	5,110.1	7,777.8	6,489.0	1,212.6	83.43
44.7	178.0	5,082.8	7,956.6	6,608.7	1,241.6	83.06
44.7	182.0	5,055.4	8,135.4	6,726.6	1,270.6	82.68
44.6	186.0	5,028.1	8,295.6	6,842.9	1,299.6	82.49
44.6	190.0	5,000.8	8,474.0	6,957.6	1,328.6	82.11
44.6	194.0	4,973.5	8,652.4	7,070.7	1,357.6	81.72
44.6	198.0	4,946.2	8,830.8	7,182.1	1,386.6	81.33
44.6	202.0	4,918.9	9,009.2	7,291.8	1,415.6	80.94
44.6	206.0	4,891.6	9,187.6	7,399.9	1,444.6	80.54
44.6	210.0	4,864.2	9,366.0	7,506.2	1,473.6	80.14
44.6	214.0	4,836.9	9,544.4	7,611.0	1,502.6	79.74
44.6	218.0	4,809.6	9,722.8	7,714.1	1,531.6	79.34
44.6	222.0	4,782.3	9,901.2	7,815.5	1,560.6	78.93
44.6	226.0	4,755.0	10,079.6	7,915.3	1,589.6	78.53
44.6	230.0	4,727.7	10,258.0	8,013.4	1,618.6	78.12
44.6	234.0	4,700.4	10,436.4	8,109.9	1,647.6	77.71
44.5	238.0	4,673.0	10,591.0	8,204.5	1,676.6	77.47
44.5	242.0	4,645.7	10,769.0	8,297.7	1,705.6	77.05

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_45V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
6500
6050
5600
5150
4700
4250
3800
3350
2900
2450
2000
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **50.0 [V]**

Throttle setting: 100%

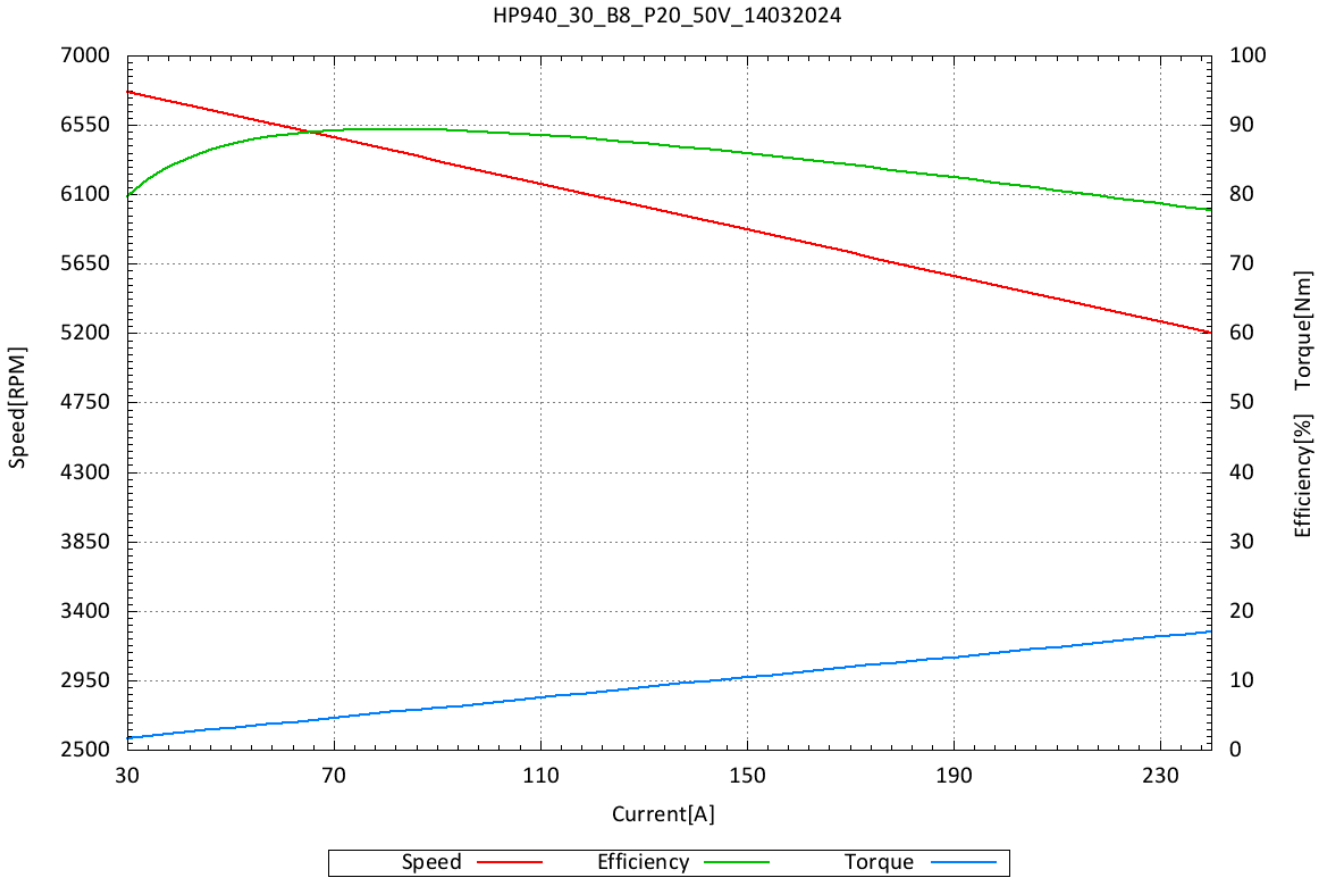
Calculated Motor Constants

nl: 6,937.8 [RPM] Io: 6.9 [A] kV: 139.8 [RPM/V] kn: -7.45 [RPM/A] kT: 7.29 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
50.0	30.0	6,765.6	1,500.0	1,193.8	168.5	79.59
50.0	34.0	6,735.8	1,700.0	1,393.8	197.6	81.99
49.9	38.0	6,705.9	1,896.2	1,592.7	226.8	83.99
49.9	42.0	6,676.1	2,095.8	1,789.7	256.0	85.40
49.9	46.0	6,646.3	2,295.4	1,984.3	285.1	86.45
49.9	50.0	6,616.5	2,495.0	2,177.7	314.3	87.28
49.9	54.0	6,586.7	2,694.6	2,368.6	343.4	87.90
49.9	58.0	6,556.9	2,894.2	2,558.4	372.6	88.40
49.9	62.0	6,527.1	3,093.8	2,745.7	401.7	88.75
49.9	66.0	6,497.3	3,293.4	2,931.8	430.9	89.02
49.9	70.0	6,467.5	3,493.0	3,116.1	460.1	89.21
49.9	74.0	6,437.7	3,692.6	3,298.0	489.2	89.31
49.9	78.0	6,407.8	3,892.2	3,478.6	518.4	89.37
49.9	82.0	6,378.0	4,091.8	3,656.8	547.5	89.37
49.9	86.0	6,348.2	4,291.4	3,833.8	576.7	89.34
49.9	90.0	6,318.4	4,491.0	4,008.3	605.8	89.25
49.9	94.0	6,288.6	4,690.6	4,181.7	635.0	89.15
49.9	98.0	6,258.8	4,890.2	4,353.3	664.2	89.02
49.9	102.0	6,229.0	5,089.8	4,522.4	693.3	88.85
49.8	106.0	6,199.2	5,278.8	4,690.3	722.5	88.85
49.8	110.0	6,169.4	5,478.0	4,855.8	751.6	88.64
49.8	114.0	6,139.6	5,677.2	5,020.1	780.8	88.42
49.8	118.0	6,109.7	5,876.4	5,181.8	809.9	88.18
49.8	122.0	6,079.9	6,075.6	5,342.4	839.1	87.93
49.8	126.0	6,050.1	6,274.8	5,501.2	868.3	87.67
49.8	130.0	6,020.3	6,474.0	5,657.6	897.4	87.39

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
49.8	134.0	5,990.5	6,673.2	5,812.8	926.6	87.11
49.8	138.0	5,960.7	6,872.4	5,965.5	955.7	86.80
49.8	142.0	5,930.9	7,071.6	6,117.0	984.9	86.50
49.8	146.0	5,901.1	7,270.8	6,266.1	1,014.0	86.18
49.8	150.0	5,871.3	7,470.0	6,414.0	1,043.2	85.86
49.8	154.0	5,841.5	7,669.2	6,560.1	1,072.4	85.54
49.8	158.0	5,811.6	7,868.4	6,703.6	1,101.5	85.20
49.8	162.0	5,781.8	8,067.6	6,846.0	1,130.7	84.86
49.8	166.0	5,752.0	8,266.8	6,986.0	1,159.8	84.51
49.8	170.0	5,722.2	8,466.0	7,124.8	1,189.0	84.16
49.7	174.0	5,692.4	8,647.8	7,261.2	1,218.1	83.97
49.7	178.0	5,662.6	8,846.6	7,396.3	1,247.3	83.61
49.7	182.0	5,632.8	9,045.4	7,529.6	1,276.5	83.24
49.7	186.0	5,603.0	9,244.2	7,660.5	1,305.6	82.87
49.7	190.0	5,573.2	9,443.0	7,790.2	1,334.8	82.50
49.7	194.0	5,543.4	9,641.8	7,917.5	1,363.9	82.12
49.7	198.0	5,513.5	9,840.6	8,043.4	1,393.1	81.74
49.7	202.0	5,483.7	10,039.4	8,167.0	1,422.2	81.35
49.7	206.0	5,453.9	10,238.2	8,289.4	1,451.4	80.97
49.7	210.0	5,424.1	10,437.0	8,410.0	1,480.6	80.58
49.7	214.0	5,394.3	10,635.8	8,528.1	1,509.7	80.18
49.7	218.0	5,364.5	10,834.6	8,645.1	1,538.9	79.79
49.7	222.0	5,334.7	11,033.4	8,759.6	1,568.0	79.39
49.7	226.0	5,304.9	11,232.2	8,872.9	1,597.2	79.00
49.7	230.0	5,275.1	11,431.0	8,983.8	1,626.3	78.59
49.7	234.0	5,245.3	11,629.8	9,093.4	1,655.5	78.19
49.7	238.0	5,215.4	11,828.6	9,201.1	1,684.7	77.79
49.6	242.0	5,185.6	12,003.2	9,306.5	1,713.8	77.53

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_50V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
7000
6550
6100
5650
5200
4750
4300
3850
3400
2950
2500
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque

Report calculated on Test Bench Results

Motor type: **ORBIT 15-30-B8 P20**

Date: 14.03.2024

Bearing type: regular

Controller: Common ESC

Measuring Parameter

Voltage: **55.0 [V]**

Throttle setting: 100%

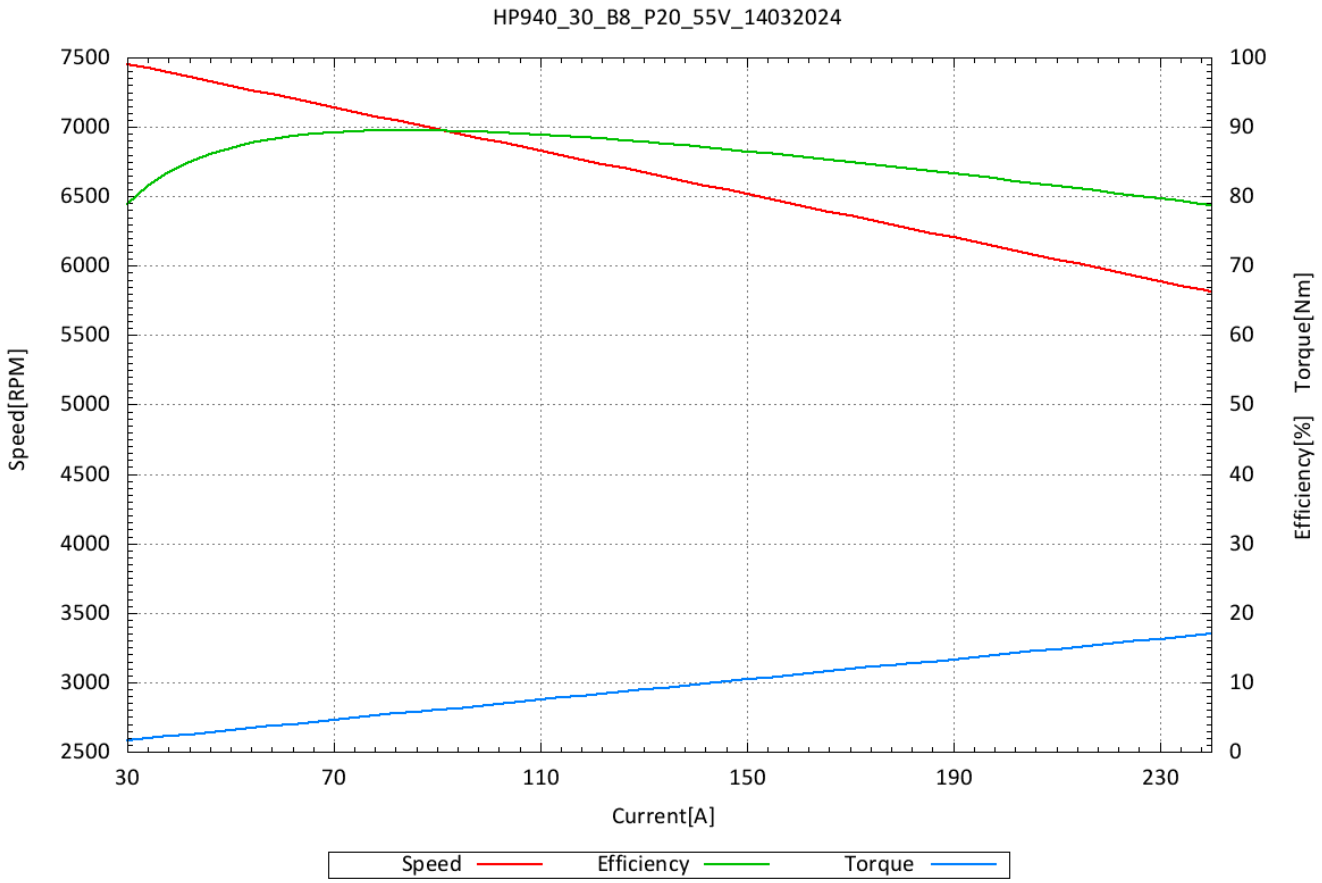
Calculated Motor Constants

nl: 7,632.4 [RPM] Io: 7.1 [A] kV: 139.8 [RPM/V] kn: -7.82 [RPM/A] kT: 7.29 [Ncm/A]

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
55.0	30.0	7,453.6	1,650.0	1,301.9	166.8	78.91
55.0	34.0	7,422.3	1,870.0	1,522.7	195.9	81.43
54.9	38.0	7,391.0	2,086.2	1,742.2	225.1	83.51
54.9	42.0	7,359.8	2,305.8	1,959.2	254.2	84.97
54.9	46.0	7,328.5	2,525.4	2,174.9	283.4	86.12
54.9	50.0	7,297.2	2,745.0	2,388.8	312.6	87.02
54.9	54.0	7,266.0	2,964.6	2,600.0	341.7	87.70
54.9	58.0	7,234.7	3,184.2	2,810.0	370.9	88.25
54.9	62.0	7,203.5	3,403.8	3,017.4	400.0	88.65
54.9	66.0	7,172.2	3,623.4	3,223.6	429.2	88.97
54.9	70.0	7,140.9	3,843.0	3,427.1	458.3	89.18
54.9	74.0	7,109.7	4,062.6	3,629.6	487.5	89.34
54.9	78.0	7,078.4	4,282.2	3,830.0	516.7	89.44
54.9	82.0	7,047.1	4,501.8	4,027.8	545.8	89.47
54.9	86.0	7,015.9	4,721.4	4,224.5	575.0	89.48
54.9	90.0	6,984.6	4,941.0	4,418.5	604.1	89.43
54.9	94.0	6,953.3	5,160.6	4,611.4	633.3	89.36
54.9	98.0	6,922.1	5,380.2	4,801.6	662.4	89.25
54.9	102.0	6,890.8	5,599.8	4,990.6	691.6	89.12
54.8	106.0	6,859.5	5,808.8	5,177.7	720.8	89.14
54.8	110.0	6,828.3	6,028.0	5,362.2	749.9	88.96
54.8	114.0	6,797.0	6,247.2	5,545.5	779.1	88.77
54.8	118.0	6,765.7	6,466.4	5,726.1	808.2	88.55
54.8	122.0	6,734.5	6,685.6	5,905.6	837.4	88.33
54.8	126.0	6,703.2	6,904.8	6,082.5	866.5	88.09
54.8	130.0	6,671.9	7,124.0	6,258.1	895.7	87.84

Voltage [V]	Current [A]	Speed [RPM]	Input Power [W]	Output Power [W]	Torque [Ncm]	Efficiency[1] [%]
54.8	134.0	6,640.7	7,343.2	6,431.9	924.9	87.59
54.8	138.0	6,609.4	7,562.4	6,603.0	954.0	87.31
54.8	142.0	6,578.2	7,781.6	6,772.9	983.2	87.04
54.8	146.0	6,546.9	8,000.8	6,940.2	1,012.3	86.74
54.8	150.0	6,515.6	8,220.0	7,106.3	1,041.5	86.45
54.8	154.0	6,484.4	8,439.2	7,269.9	1,070.6	86.14
54.8	158.0	6,453.1	8,658.4	7,432.1	1,099.8	85.84
54.8	162.0	6,421.8	8,877.6	7,592.4	1,129.0	85.52
54.8	166.0	6,390.6	9,096.8	7,750.3	1,158.1	85.20
54.8	170.0	6,359.3	9,316.0	7,906.8	1,187.3	84.87
54.7	174.0	6,328.0	9,517.8	8,060.7	1,216.4	84.69
54.7	178.0	6,296.8	9,736.6	8,213.5	1,245.6	84.36
54.7	182.0	6,265.5	9,955.4	8,363.6	1,274.7	84.01
54.7	186.0	6,234.2	10,174.2	8,512.4	1,303.9	83.67
54.7	190.0	6,203.0	10,393.0	8,659.5	1,333.1	83.32
54.7	194.0	6,171.7	10,611.8	8,803.9	1,362.2	82.96
54.7	198.0	6,140.4	10,830.6	8,947.0	1,391.4	82.61
54.7	202.0	6,109.2	11,049.4	9,087.7	1,420.5	82.25
54.7	206.0	6,077.9	11,268.2	9,227.0	1,449.7	81.89
54.7	210.0	6,046.6	11,487.0	9,363.7	1,478.8	81.52
54.7	214.0	6,015.4	11,705.8	9,499.4	1,508.0	81.15
54.7	218.0	5,984.1	11,924.6	9,632.9	1,537.2	80.78
54.7	222.0	5,952.9	12,143.4	9,764.1	1,566.3	80.41
54.7	226.0	5,921.6	12,362.2	9,893.8	1,595.5	80.03
54.7	230.0	5,890.3	12,581.0	10,021.0	1,624.6	79.65
54.7	234.0	5,859.1	12,799.8	10,147.1	1,653.8	79.28
54.7	238.0	5,827.8	13,018.6	10,270.5	1,682.9	78.89
54.6	242.0	5,796.5	13,213.2	10,392.6	1,712.1	78.65

nl = rpm with no load
Io = current with no load
kV = specific rpm
kn = rpm drop per Amp
kT = torque constant
[1] incl. Controller


HP940_30_B8_P20_55V_14032024
Speed[RPM]
Efficiency[%] Torque[Nm]
Current[A]
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
100
90
80
70
60
50
40
30
20
10
0
30
70
110
150
190
230
Speed
Efficiency
Torque